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SCIENCE FICTION MONTHLY

This Issue
SFM Calendar 1975
Extraterrestrial Life-Is anybody there?

Artist Interview with Roger Dean

Fanzines In Focus

Jack Arnold Interview

Fiction from:
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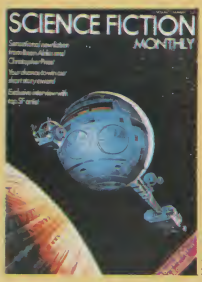

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Volume 1 Number 11

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Plum Duff in outer space. Illustration by Ray Winder

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Future Issues

Amidst these glossy and colourful pages next year, as time marches on and SFM Vol 2 comes into being, we will try to live up to our name and offer you more original fiction. Since our short story competition we've collected enough short stories to scupper a space-ship, so it's only a matter of time before these appear in print. The winning entries will begin to appear in the next issue (Vol 1 No 12) and from then onwards nothing will stand in our way.

Fiction aside, brace yourself for Mike Ashley's forthcoming articles on the wizard of sf, Michael Moorcock, and the man with the Dangerous Visions, Harlan Ellison. Walter Gillings continues his series of articles Modern Masters of Science Fiction with stories and biographies of such writers as Jack Williamson, John Campbell, AE Van Vogt, Brian Aldiss, Frank Herbert and many others.

In the future SFM will be devoting more space to sf in the cinema and on tv; John Brosnan is engaged in preparing an article on this theme at the moment, with special emphasis on Star Trek and Dr Who. We are hoping to arrange for more timely film reviews and also advance news of films being made and about to be released.

Still on the more visual side of sf, we have plans to publish some of the black and white artwork submitted for our sf art competition. We've come to the end of our series The Artist in Science Fiction, although isolated interviews and articles on this topic will, of course, appear from time to time. In fact the publication of Anthony Frewin's book One Hundred Years of Science Fiction Illustration provides just such an opportunity for some more comment on sf art.

Peter Weston has already demonstrated his comprehensive knowledge of science fiction with his article Don't Laugh Earthling, I am the Ambassador from Sirius V! which appeared in SFM Vol 1 No 9. In future issues he will be tracing more themes in sf such as: Time travel; Psi-powers; Parallel worlds; Spaceships over the years; Catastrophe novels; Alien possession; Galactic empires; Matter transmitters; Immortality etc, etc. In addition to this Peter went to America for the World SF Convention and we'll be publishing his report on that.

Malcolm Edwards reviews The Dispossessed, Ursula Le Guin's new novel, in this issue of SFM and next month turns his attention to Philip K Dick's Flow My Tears, The Policeman Said. Next year he hopes to interview a number of well-known authors starting off with Samuel Delany; this should appear in SFM Vol 2 No 3.

Other items arranged for your continuing delight and edification include: a regular comic strip; sf and fashion; more mention of music, and anything else exciting that happens. Science fiction is a literature of freedom and of ideas and in 1975 SFM will be striving to reflect this ideal.

Martin Venning

Jack Arnold SF Film Director Extraordinaire

If you remember such great sf films as *It Came From Outer Space* and *The Incredible Shrinking Man* you will already be familiar with the work of Jack Arnold. In this personal interview JOHN BROSNAN has managed to discover the techniques behind directing tarantulas, barracudas and *The Creature From The Black Lagoon.*

Of the many so-called science fiction films produced in Hollywood during the 1950s only a handful are in any way memorable. These include such films as *The Thing, War of the Worlds, Forbidden Planet, Invasion of the Body Snatchers* . . . and the films of Jack Arnold. He directed two fine science fiction films—*It Came from Outer Space* (based on a story by Ray Bradbury), and the classic *The Incredible Shrinking Man* (with a screenplay by Richard Matheson based on his own novel). But even Arnold's monster films, such as *The Creature from the Black Lagoon* and *Tarantula,* possess a distinctive flair that is missing from similar productions of the period. In his book *Science Fiction in the Cinema,* John Baxter describes Arnold as 'the great genius of the American fantasy film' and adds that his series of films made for Universal Studios between 1953 and 1958 have few equals in the cinema for sheer virtuosity of style and clarity of vision.

Jack Arnold's film career really began when he was a young actor working on Broadway before the Second World War. On his days off he would film his fellow actors on stage, using a sound-proofed 16mm camera, and then sell them the results. This lucrative hobby came in handy when, after Pearl Harbour, Arnold joined the Army Signal Corps while waiting to get into a pilot training school. The Army Signal Corps were making training films of all kinds and Arnold found himself working under the great documentary-film-maker Robert Flaherty. Flaherty and Arnold became good friends and during the five months he was with him Arnold received an invaluable crash-course in film-making.

After the war Arnold and a friend formed a company to make documentaries which was very successful. It was for one of these documentaries that Arnold received an Academy Award nomination and this led to an offer from Universal Studios to direct feature films. The first of these was in 1950 and was a picture about teenagers growing up in the slums of New York. Originally called *Night Flowers* it was released under the title of *Girls in the Night,* but it did well at the box office and Arnold received other directing assignments from Universal. One of these, in 1953, was *It Came from Outer Space,* an eerie film about a group of aliens who take over the bodies of the inhabitants of a small desert town in order to repair their crashed spaceship.

How did 'It Came from Outer Space' come to be filmed?

Arnold: It started because Universal had bought a story by Ray Bradbury with that name. They thought it could be successfully adapted to make a 3D picture. 3D had just come out and Warner Brothers had just released one called *The House of Wax* which was a hurriedly put together thing in order to throw objects at people in 3D. So Universal assigned it to me and it was quite successful. So from there on I made all their science fiction films.

Did you resent having to do these type of films?

Arnold: No. I loved science fiction. I had always been a science fiction fan. As a kid I used to buy all the sf pulp magazines. I loved them. I was very pleased that I was assigned to do *It Came from Outer Space* because I was still an avid fan. And the more I did of these films the more I liked it because the studio left me alone. No one at that time was an expert at making sf films so I *claimed* to be one. I wasn't, of course, but the studio didn't know that so they never argued with me, no matter what I did.

'It Came from Outer Space' was a marvellously atmospheric picture.

Arnold: I tried to create an atmosphere because I think if you shoot an imaginative film . . . a film in which you ask an audience to believe things that are bizarre . . . you have to *make them believe* it. You can't do this with the story or actors alone but you have to create a kind of atmosphere while shooting it in which their credibility will be suspended to the point where they don't say to themselves—'That's impossible.' And I think the only way you can get an audience to accept the impossible is to get them involved in an atmosphere . . . a mood, or what the kids today call *vibes*, a *feeling* of what you're trying to do. That's why I make a lot of use of actual physical locations . . . I make them work for my story. That's why I like to shoot in the desert, or on the ocean or beaches, locations that will help me to create an atmosphere. Most of *It Came from Outer Space* was shot out in the desert . . . only the interiors were shot in the studio, and also the scenes in the little town which was on the Universal back lot. Everything else was shot out in the desert. The space ship, was of course, a model. We built a full-scale section of it and a crew went out in the desert and dug a big crater for it. Then we matched shots of it with miniatures for scenes of the actual space ship.

Did you shoot 'Tarantula' in the same area?

Arnold: Yes . . . in the same area about 10 or 15 miles in the desert to the north of Hollywood. Actually it was a place called Dead Man's Curve where there was an outcropping of rocks that I particularly wanted to use. I would just go into the desert and look for something that looked eerie and if it gave me the shivers I would say, right . . . we'll shoot here.

Clifford Stine was in charge of the special effects on many of your films, wasn't he?

Arnold: Yes. Originally he was my cameraman but he was made the head of Universal's special effects department . . . he was a very knowledgeable and very good cameraman. We worked very well together. We had a lot of crazy problems to work out while making those films. For instance, in *The Incredible Shrinking Man,* apart from the problems of shrinking him down to less than an inch and getting him down into the cellar and having him fight the spider we had the problem of making drops of water look large. The drops were supposed to be coming from a leaking hot water unit. The hero, played by Grant Williams, who incidentally gave a tremendous performance, I thought, was living in a matchbox underneath it. Now Grant was 6' 1" tall and so everything had to be built in proportion on the set to make him look 1" tall. But the problem was to get the drops to look huge in comparison to him. We tried everything. We were using the biggest sound stage there was at Universal and we got up on the top and rigged a device that released water a small amount at a time but the water would spread out on the way down and look useless. Then I remembered a little bit about my ill-spent youth when as a kid I found a box of contraceptives. I didn't know what they were at the time but I discovered that they made dandy bombs when you filled them with water. I used to drop them on top of people from windows and I remembered that they used to hold a tear-shaped form on their way down. So I got hold of one at the studio, filled it with water and had one of the guys drop it from the top of the sound stage. It turned out to be the perfect proportion and splattered just like a large drop of water when it hit the floor. So I ordered a hundred gross of the things and we rigged up a treadmill that dropped them at an increasing rate until we opened the gates of the tank and released tons of water on top of Grant for the big flood scene. But the really amusing part came at the end of the picture . . . the production office called me in to go over the facts and figures of the costs. They told me there was one item that they didn't understand. I asked what it was and they said it was this order for a hundred gross of contraceptives. I said, fellows, it was such a hard picture and we all worked so hard we decided to have a big party at the end of it.

The scenes with Grant fighting the spider are extremely well done. How difficult were they to film?

Arnold: It was very difficult. I had to shoot the spider in his web, then I had to make the spider come down from his web and come along the ledge, then I had to impale him with a bent pin, which was supposed to have been thrown by the tiny Grant Williams. It took a number of attempts before it worked. It's very hard to direct a spider. I finally worked it out by using air jets . . . I would prod him in the direction I wanted him to move with spurts of air. We flew in sixty Panamanian tarantulas because the domestic ones were too small and we couldn't keep a sharp focus on them. We had to get the biggest ones available and they turned out to be in Panama. They were tremendous beasts . . . 6" in diameter I We used about sixty of them during the filming because we had to light to such a high intensity they almost cooked.

Isn't it hard to direct an actor when he's supposed to be reacting to something that isn't really there?

Arnold: Well, the only insurance a director has in that situation is to have good actors. When I cast for these sf films I tried to get actors who were intelligent, had imagination and were good at their craft. So that if I told them the story and what was supposed to be happening at a given time they were able to reconstruct it themselves. For instance, in *The Incredible Shrinking Man* I shot the scenes with the spider first, then in Universal's largest sound stage we built full-size replicas of part of the wall, the ledge, spider web, pair of scissors, ball of twine etc . . . all at a size that would make Grant look an inch tall in comparison. Then I would run the film of the spider that I had shot previously and cut it the way I wanted. Then, with a metronome, I counted out beats for the time the spider's actions took. The sound stage was blacked out except for the over-size sets so I would set up my camera with a piece of negative of the shot of the spider placed in the camera's ground glass and then match up the sets with the scene on the negative . . . overlaying the two images until they became one. When we did that we knew we had vertical and horizontal correct. The camera had to be about 250' away from Grant and the sets so that he would look small. Then I would rehearse Grant in what he had to do. With my count on the metronome we would time it all . . . at every count Grant would have a different action to perform. He would go up and shake the web . . . that would last maybe for eight counts . . . then on nine counts the spider started down . . . on fourteen counts the spider was down . . . on eighteen he was coming closer . . . on nineteen something else happened and so on. All of it was timed to match in exactly with the footage of the spider. Grant did it all by numbers, having to imagine what was happening at each point. Then when we had two pieces of film we just married them together into a single piece of film and there it was. You would swear that Grant and the spider were together on the ledge.

The image components match very well together. None of the jiggling that you often get with the blue screen system of travelling mattes.

Arnold: There was no jiggling at all with our technique. Cliff Stine and his effects team worked it all out mathematically. We had to do only one re-take because of a mistake his department made . . . that was in a scene when Grant was supposed to be 3' tall. It was a split-screen scene and he was supposed to put his arm around his wife but we ended up 1mm off so we had to shoot one side of the split screen again. But that was the only time in the whole picture. Cliff was a genius. The blue screen process wasn't in use when I made *Shrinking Man.* We used a combination of making our own mattes and rear projection. Anyway, blue screen work always looks a bit phoney to me . . . if you're not careful you often have a green line around people. It's very tricky to do properly.

Whatever happened to Grant Williams after he appeared in your film?

Arnold: I don't know. He never did catch on with the public. His looks weren't in vogue in the 1950s. Grant was blonde and blue-eyed, kind of too pretty to be a character actor but not quite the picture book Rock Hudson or Robert Taylor type that Hollywood wanted at that time. He was short-changed, he never got the right parts. In our films, the science fiction ones, the picture itself was the star, and the special effects, but the actor was never the star. Yet in *The Shrinking Man* almost three-quarters of the film was silent . . . it required real acting. it wasn't just a case of reciting banal dialogue as happened in so many sf films. Grant had to act . . . and I thought he gave an outstanding performance but it didn't help his career. Universal didn't take him out of that and put him into an A picture as they should have done, they just put him into more B pictures. That's happened to us all in this business at one time or other . . . directors, actors, writers. Lady Luck sometimes sits on your shoulders but other times she's busy elsewhere.

Of your sf films is 'The Shrinking Man' your favourite?

Arnold: Yes. Definitely. It was the most challenging because it hadn't been done before. They had done a film similar only in the sense that the people were small, that was *Dr Cyclops,* but they stayed one size. Neither did it have the atmosphere that I thought that sort of situation required . . . the situation of being so small that the commonplace suddenly becomes bizarre and threatening. Where as in *The Shrinking Man* an ordinary cellar becomes a hell of a place filled with monsters. I wanted to make the audience realise that their *own* cellars were potential hells . . . that the familiar could become horrible if the circumstances were changed. In the same vein I once wrote a story called *The Other Side of the Moon* which starts off in this spaceship which is in trouble. It gets drawn into the gravitational pull of an unknown planet and crash-lands in a jungle. The crew tries to survive in the jungle and while they are exploring they keep finding peculiar things that give them the idea that the place was once inhabited by human beings . . . they find pieces of railway track and big objects made of rubber . . . and periodically they are inundated with a torrent of water though the sky is always clear at the time. Then they get attacked by these giant insects . . . giant ants, spiders, etc and eventually by the end of the picture everyone is killed. And then a giant hand reaches down and picks up their crashed space ship and it turns out that the setting is Earth and that they had landed in someone's back garden. All the objects they found were a child's toys, the monsters were just ordinary garden insects and the torrents of water were coming from a sprinkler. What had been hell for them was an ordinary garden lawn. Once again I wanted to create the atmosphere of having familiar things become objects of terror and mystery. But I couldn't sell it to any of the studios . . . they didn't like the idea of everyone dying in the end. They wanted a happy ending.

Whose idea was 'The Creature from the Black Lagoon'?

Arnold: He was a composite creation. The producer who was assigned to make these sf films, Bill Alland, who is no longer in the business, found this story by Maurice Zimm and he called me in on it. We worked on it together, and also with a writer, and we evolved the creature, or Gill-Man as it came to be known. Then we sold the story to the studio. We had a lot of fun trying to create the monster . . . trying to decide what he should look like. We made a lot of tests before we decided on what appeared in the film and it turned out very good.

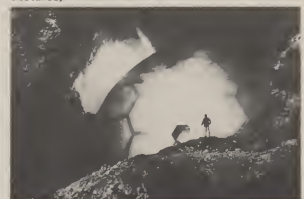
Where did you shoot those marvellous underwater scenes?

Arnold: We shot them at Silver Springs in Florida. Very clear water there . . . or it was. I thought there was a mystery and romance to the underwater scenes and also a sense of terror. I think we succeeded in capturing that feeling in *The Creature.* Those scenes with the girl swimming on the surface and the monster looking up at her from below played upon a basic fear that people have about what might be lurking below the

'We flew in sixty Panamanian tarantulas because the domestic ones were too small and we couldn't keep a sharp focus on them. We had to get the biggest ones available and they were tremendous beasts 6'' in diameter. We used all sixty of them during filming because we had to light to such an intensity they almost cooked!'

Leo G Carroll experiences one of the unpleasant side-effects of scientific research (from TARANTULA, *courtesy Universal Pictures)*

Scientist Leo G Carroll inspects his work in a scene from Jack Arnold's TARANTULA *(courtesy Universal Pictures)*



The spaceship from IT CAME FROM OUTER SPACE *. . . actually a miniature, and so is the figure of a man (courtesy Universal Pictures)*

surface of any body of water. You know the feeling when you are swimming and something brushes your legs down below . . . it scares the hell out of you if you don't know what it is. It's the fear of the unknown. So I decided to exploit this fear as much as possible in filming *The Creature from the Black Lagoon.* But I also wanted to create sympathy for the creature . . . or my little beastie as we called it . . . because I liked him. I'd gone to Florida to find an underwater swimmer and we found a boy who was swimming in a show who could hold his breath for five minutes at a time.

He didn't use air tanks at all during the filming?
Arnold: No. He was such a good underwater swimmer that what we had was an air hose off-scene and when he felt he needed air he would swim over to it, take a deep breath then swim back to the scene. That way he could stay under-water for ages. We couldn't build air tanks into the costume because then you would have seen the bubbles. But he was sensational. His name was Ricou Browning. He became a director later and I believe he's directing a TV series down in Florida at the moment. In the second film (*Revenge of the Creature*) we filmed him in a fish tank in Florida. The first one had done very well at the box office so the studio wanted a sequel. We dreamed up a story about the Gill-Man being captured and put in an oceanarium in Florida. When I went down to scout locations the oceanarium people showed me this tremendous tank full of sharks, barracuda, moray eels, even an octopus. They were fed by divers going into the tank and feeding them by hand. I looked into the tank and said, could you guys possibly screen off half the tank with a net and then take out the most dangerous fish so that I can shoot the creature inside it. I told them I not only had to get the creature in the tank but also my leading man and lady. I said if they took one look at those sharks in there I would never get them in. So they assured me they would but when I returned with the company and we got ready to shoot I saw there was no net. Where's the net, I asked. And they said, you don't need a net . . . those fish won't bother your actors . . . they're too well-fed. So I was in a fix. How was I going to get my actors to go in there? Now I had a crazy camera-man on that picture, he was nuts. He said to me that I'd better go into the tank with him to demonstrate to the actors that it was safe. He talked me into it so I put on a mask and air tanks and jumped in. I closed my eyes at first. After a while I opened one eye and there was a damn shark, at least 12' long, his mouth open and *looking* at me. And he was only about a yard away. I didn't know what to do. I didn't know whether to make any movement or to stay absolutely still . . . so I just shut my eyes again. It seemed the best thing to do. Then he brushed by me and I felt his skin . . . it was like sandpaper. I shot to the surface then and said, come on in . . .: nothing to it! But the amazing thing is that by the third day . . . after all our initial reluctance to go in the tank . . . all of us were so used to the sharks that we were actually kicking them out of the way. The only animal that gave us any trouble was a turtle. It developed a liking for the creature's costume and kept biting chunks out of it. Finally we had to assign a grip to stay under-water with the sole job of making sure that the turtle didn't bother our monster.

Were the budgets on those films relatively tight?
Arnold: Well, for those days they weren't. We spent about seven to eight hundred thousand dollars which was a lot of money for a film in the 1950s. That's what made the difference between our science fiction films and many that followed . . . such as the ones that American International Pictures made and the Japanese ones. They just went out to exploit the market without trying to do anything imaginative. But our budgets were fairly large. It wasn't a budget that they would give, say, to a Lana Turner picture but it was above average for a B picture.

'Tarantula' was very good for a monster film. Did you use the same technique to control the spider that you used in 'The Shrinking Man'?
Arnold: Yes. We controlled it with air jets. What we did was match the rocks in the studio to the actual rocks out there in the desert, then shoot them in perspective. We'd push the spider about with the air jets until I got the shot I wanted. I would want, say, a leg to appear over the top of the hill first, then the mandibles etc. Usually after about ten attempts we got the shot I wanted. We'd shoot the spider against a black background then superimpose it into the scenes with the live actors.

What have you been doing since making your science fiction films?
Arnold: Well, I've been making other films, such as *The Mouse That Roared* . . . and I got involved in TV too. I was the Executive Producer on the *It Takes a Thief* series with Robert Wagner. Now I've formed my own company to make films. I'm tired of doing TV now . . . too much hard work for too little artistic satisfaction. The money is good but it's like working in a sausage factory. With my own company I've got the financial backing to make three films. I'd like one of them to be a science fiction film. I'm constantly looking for suitable science fiction stories to film but I haven't been able to find anything. I'm still in the market though. If anyone wants to send me a story I will read anything. I love science fiction, I think it's a staple like the western in film making . . . more so because it requires a great deal of imagination . . . at least the good ones do. They demand more from an audience than the average escapist fare.

Then you still read a lot of science fiction?
Arnold: I read as much as I can. I've read a lot of sf books but so few of them are suitable for filming . . . not suitable for the films I want to make, anyway. I want stories that I can create an atmosphere with but so many of them are like technical manuals. Robert Heinlein has written a couple of books that I like . . . such as the one about the huge starship that has become a world unto itself (*Universe*) as it drifts through space. I was interested in filming that and also *Stranger in a Strange Land,* a great story. Columbia bought that but they don't know what to do with it. They've spent a lot of money having different versions written but they still haven't licked the problem. But the answer is right there in the book . . . all you have to do is dramatise what Heinlein wrote without trying to improve on it. I think it would make a good movie and I may try and get it away from Columbia. Another point in its favour is that it wouldn't require elaborate special effects. I've been trying to get Richard Matheson to write one for me again . . . he wrote *Shrinking Man* . . . he's a beautiful writer. We might get together and see if we can dream up a suitable story. But that's in the future . . . if my health lasts that long, or I last that long. I've got a lot of plans, I just hope I've got enough time to fulfil them.

THE OCTOBER COUNTRY by Ray Bradbury
Painting by Josh Kirby.

the Artist in Science Fiction

By Julie Davis

Dean, Roger
Age: 30
Educated: Four years at Canterbury and three years at The Royal College of Art.
Work includes record sleeves for Yes, Osibisa, Greenslade, Uriah Heep, Badger and many other bands; the sleeve designs are also available as wall posters. His involvement with Yes has also extended to the design of their stage sets.
He also dabbles in furniture design and an example of this can be seen and sat on at Ronnie Scott's Club, London.

Roger Dean is possibly the foremost illustrator of record sleeves in this country, his work can be found wrapped around the recorded music of Yes, Osibisa, Uriah Heep and many others. The first sleeve to attract major interest was the design for the first Osibisa album which featured the flying elephant now so characteristic of the band. It seems that Roger's distinctive style is so unique that once you've seen one album sleeve you can recognise them all, if not from his artwork then from his familiar style of lettering (although there are about ten exceptions to this rule).

But Roger's main interest and indeed his motivation to design such aesthetic packaging is not just a ploy to sell an album or even to derive some personal satisfaction from creating a 'pretty picture'. Many of his paintings are essentially three-dimensional architectural designs and often his involvement with album sleeves is simply to use them as a medium to propagate his architectural ideas.

In fact it was his work with three-dimensional objects that occasioned his debut as a sleeve artist. It so happened that whilst working on a design for a seating arrangement in the first floor discotheque at Ronnie Scott's he left his college notebook lying around and the manager of a group called Gun began leafing through it and found a drawing he wanted to use on the sleeve of their album *Race With The Devil*. That was in 1967 and since then Roger has illustrated over fifty-one covers.

Roger's designs obviously have a very wide appeal and probably help to sell the albums they package. In fact they may fulfil the same purpose as the well-packaged cake-mix in the supermarket. On this point Roger commented:

'The attractiveness in the drawings is partially incidental and partially an attempt on my part to make people want to like them, so that I can introduce them to other ideas which I want them to like and which aren't just pretty pictures. My drawings are not about art at all, I am not interested in art, I am not interested in fantasy in the sense that your magazine is. What I am interested in is putting ideas represented on the sleeves actually into practice. If some of those buildings and some of those sections of worlds appeal I don't want them to appeal only out of the pages of a book, I want people to be able to walk around them,

climb the staircases, walk the corridors.'

Roger's vision of his cover designs becoming reality forms part of his ambition to build a structure based on natural forms. He explained the motivation behind this:

'Architecture is designed to a set of criteria, they call it functionalism but they dress it up with aesthetics, but the basis of it is that the materials and technology work together comfortably and are checked by the economics. The design is intended for mechanical man, for ergonomic man. My objection to that was that it didn't accommodate the emotional human being; I was doing some research on sleeping and it's quite obvious that whether people sleep comfortably or not isn't to do with whether they have a good mattress or not, it's to do with whether they are feeling uneasy, nervous or relaxed and at ease. I tried to see if it was possible to determine these things architecturally, and it was, you can make somebody uncomfortable and you can make somebody comfortable architecturally by altering their position in space and their relationship with the rest of the room.

The ideas are very strategic in concept, it's very similar to defending yourself against attack in a way. Especially when sleeping, you are in a very passive state so you need to be in a very good strategic position in relation to the rest of the room and anyone who may appear in it. These are the kind of ideas I was utilising to get the house together; to some degree and in some form these things apply to the whole house.'

To the uninitiated Roger's ideas for a house may be incomprehensible but he admits that there are really no words to describe it:

'The vocabulary of architecture is based on Euclidean plane geometry and nothing I do is derived from that. It's incredible how imprecise we are about organic architecture, maybe we ought to use medical terms because they describe the function and not the shape.'

Roger confessed to being an sf addict in a sense although he made some rather scathing comments about the genre:

'Science fiction is unfortunate in having a most unsatisfactory framework of existence; it's considered literary kitsch. I believe it should be the mainstream of literature because all the books that have become important down the generations of civilisation have been books about ideas. Superficially science fiction would seem to offer the most scope for idea content, but the promise is unfulfilled, good ideas and good writing rarely coincide. All too often the medium is used for entertainment alone and its potential beyond this should be obvious to everyone. I don't just mean in the sense of fantasy technology, the potential for anticipating human evolution is there and perhaps the means to bring it about and definitely the means to bring about a social evolution.

'Science fiction is a long standing frustration with me; it's the area I want to read in with the most exciting material but, there's just not enough done. I wonder if the heralds of science fiction are using the right medium. I wonder if producing a book is the most successful way of broadcasting an idea which one considers sf. The quality of sf suggests that it isn't though there is obviously a lot of imagination at work.'

Lately a lot of Roger's time has been devoted to compiling a book about his work which is scheduled for publication in the New Year. Through the book, which features primarily his record sleeve designs he hopes to catch the attention of people who already like his illustrations and then feed them with his ideas for buildings, cities, worlds and galaxies. Included in the book will also be some mention of his work with Yes for whom he designed some very interesting stage sets.

Modern Masters of Science Fiction

By Walter Gillings

Barry Robson

He told the story of the whole cosmos in two volumes . . . and his hero was the entire species of Man.

5: OLAF STAPLEDON

To dyed-in-the-wool science fiction fans, not to have read Olaf Stapledon's *Last and First Men* is the unforgivable sin. Yet to most of today's readers Stapledon's name conveys little or nothing. Very few anthologies include an extract from his works, which are not always easy to come by. He never wrote for the popular magazines—and, anyway, his books were not written as science fiction; he called them 'fantastic fiction of a semi-philosophical kind'.

Still, to avid readers of the 1940-50s, and to many lesser writers whose names are better-known, the works of Olaf Stapledon represent the zenith of imaginative conception; especially those two which together encompass the whole cosmos in a mind-blowing panorama of 'future history'—*Last and First Men* and *Star Maker*. On both sides of the Atlantic, these unique fantasies were regarded with veneration and their author as a master fit to rank with Wells himself, if not to replace him as the new peer of the literature.

Nor was this adulation confined to the inveterate readers of science fiction, of whose existence Stapledon remained unaware for several years after his first major work had been acclaimed by the critics. Before then, he had published two small volumes of poetry which reflected his early socialist leanings, and the first of several non-fiction works which appeared at intervals between his novels—if they could be described as such.

A Master of Arts and Doctor of Philosophy, William Olaf Stapledon (he discarded his first name) was no scientist; but he was genuinely concerned about the proper use of science for the benefit of the community, and with the establishment of a new social order. He spent much time lecturing audiences, large and small, warning against the forces of reaction and censorship and advocating 'intelligence and kindliness' as workable assets in the movement towards true civilisation. If these assets were lost or destroyed, he said, the human species 'may vanish like the mastodon'.

Born at Wirral, near Liverpool, in 1886, he had the advantage of a good schooling, went to Oxford, and taught at Manchester Grammar School before working in a shipping office in Port Said, where he had spent part of his childhood. Back in England, he conducted workers' education classes at Liverpool University until the first world war interrupted his career; though he once confessed in a letter: 'I really have not had a career, having chopped and changed from one thing to another without finding my feet anywhere.' He called himself 'a born muddler'.

After the war he married an Australian girl and returned to the university at Liverpool where he received his PhD and continued to lecture in philosophy and psychology. He and his wife sought recreation in walking, swimming and mountain climbing. They had two children, a son and daughter. And it was there, in the late 1920s, that he wrote *Last and First Men: A Story of the Near and Far Future,* which he described in a preface as 'an essay in myth creation' while denying any attempt at prophecy.

Adopting the viewpoint of an inhabitant of a distant epoch—one of the Last Men—he projected his imaginary history of humankind over no less than two thousand million years, to the end of recorded time. It detailed the rise and fall of successive civilisations, during which the apes subdue the human species and a Martian invasion provokes interplanetary conflict, ending in man's reversion to savagery. Then a new race arises, to be ruled by giant brains and give place to yet another breed of supermen.

At length the Fifth Men are menaced by the break-up of the Moon, compelling them to migrate to Venus after a million years preparing for the move. Finally, threatened by the extinction of the sun, the Ninth Men are specially designed to start the colonisation of Neptune, where nine more species evolve over the next six hundred million years before their story ends. Not on a pessimistic note, entirely; for the Last Men, faced with spiritual dis solution, are still intent on scattering the seed of their kind into space to root in some distant galaxy. And if it should perish, as it must eventually, 'it is very good to have been man.'

No summary can do justice to the absorbing detail with which, in crystal-clear prose, Stapledon conveyed his amazing conceptions, not only of alien environments and bizarre mutations, but of the psychological and sexual attitudes implicit in the structure of his mythical societies. In this respect the book was refreshingly different from the bulk of current American science fiction; yet its substance was essentially similar, and its scope as ambitious as anything ever attempted before then. Though there were, perhaps, faint echoes of the French astronomer Camille Flammarion's classic *Omega: The Last Days of the World,* in which the last man and woman find refuge on Jupiter before the sun goes out.

When *Last and First Men* hit the literary headlines in 1930, JB Priestley pronounced it 'far and away the best book of this kind in our time . . . a *masterpiece*.' The following year it saw publication in the USA, where the noted radio commentator and writer Elmer Davis hailed it as 'the boldest and most imaginative book of our times.' In *Amazing Stories,* literary editor CA Brandt also noted it as 'worth careful study . . . a masterpiece in the realm of scientific fiction.'

By 1932 it had been supplemented, here, by *Last Men in London,* in which the author adopted the same remote Neptunian viewpoint to tell what was, in the main, a more down-to-earth story based on his own experiences, especially during the war when he served in France in the Friends' Ambulance Unit, a non-combatant contingent. After the near-limitless vistas of the earlier book, this more introspective narrative seemed like an anti-climax. But to those who persisted it presented a fascinating picture of the life and customs of future man, his science and philosophy, as retailed by the 20,000-year-old Explorer of the Human Past.

In the account of his manipulation of the pacifist Paul as he grows from boyhood to maturity, Stapledon subtly revealed his own attitude to every aspect of life, from politics to sex; and at the end the emergence of a potential superior species, typified by one of Paul's pupils, hints at the story of *Odd John* which followed in 1935.

Opening this 'story between jest and earnest,' the author did not disguise the fact that it had been inspired by JD Beresford's classic account of *The Hampdenshire Wonder,* which dates back to 1911. Adopting this time a straightforward novel approach, he produced a thoroughly entertaining tale on a theme which has since been developed by many writers. Essentially, however, it reflected the author's constant preoccupation with 'the true life of the spirit'; though even the enlightened mutant himself cannot define precisely what that implies.

In *Sirius* (1944), Stapledon returned to the super-being theme, but instead of a boy with extra-sensory powers the prodigy is a dog, who retains his canine instincts while growing in mind and spirit—and at length consorting with the girl who raised him. In the view of many critics, this 'fantasy of love and discord' represents Stapledon at his best as a novelist.

But for sheer imaginative power and original conception nothing can compare with his 'cosmological fantasy' *Star Maker,* which appeared in 1937. In the author's own words, in a letter written just prior to its publication: '*Star Maker* is, I fear, a much wilder and more remote and philosophical work (than *Last and First Men*). Probably it will be my last fantastic book.' And, for his publisher's catalogue, he wrote his own blurb which summed up the vast extent of the work in 100 words:

'An imaginary exploration of the cosmos reveals the history of life and mind in our galaxy and throughout the swarm of galaxies. After tracing the fortunes of many non-human intelligent races in remote planetary systems, the story tells of the dire events which preceded the foundation of a utopian Society of Worlds in our galaxy; of the desperate struggle between this Society and another order of intelligence; of the belated emergence of an imperfect and shortlived cosmical mind; of the strange relations between this spatio-temporal cosmos of ours and its ungodly creator; and of his many other creations.'

Reviewing *Star Maker* in *Scientifiction,* John Beynon Harris summed it up even more succinctly: '. . . it is the life-story of Life.' And to read it is the experience of a lifetime. If Stapledon had written nothing else, he might still have justified his place in science fiction's hierarchy. His approach was that of the philosopher rather than the teller of tales; yet he told an engrossing story in which the hero was no super-scientist or conquering spaceman but the entire species of Man.

What puzzled his most ardent readers was that he knew nothing of American science fiction until 1936, when the Liverpool writer Eric Frank Russell introduced him to the pulp magazines. His reaction was one of surprise that so much was being done along the lines he had been pursuing quite independently. Though he found some of the ideas they offered 'very striking and vividly treated,' he thought 'the human side was generally terribly crude, especially the love interest.'

How did he come by his own wealth of ideas which he treated so differently? He confessed: 'The general plan of *Last and First Men* came in a flash as I was watching seals from the cliffs of Anglesea. Afterwards I simply pumped all my scientific friends for all the information I needed.'

`He admitted to being influenced by the ideas of Gerald Heard, the science writer who later moved to California and produced that remarkable novel, *Doppelgangers* (1947). He also adapted some of the notions of Professor JD Bernal, who in the 1920s envisaged whole societies being transported through space on miniature planets. By the time *Star Maker* appeared, Stapledon had joined the British Interplanetary Society, but it was not until 1948 that he was persuaded to lecture them on 'Interplanetary Man'. The occasion gave many of his disciples their only chance to see and hear the smiling, mild-mannered man with greying hair and twinkling blue eyes who Arthur C Clarke has described as 'one of the most civilised men of our time'.

Repeated attempts by at least one editor to induce Stapledon to write for a science fiction magazine all proved futile, however. His excuse was that his mind did not run along the lines of short stories; but some of his later novels made very slim volumes. Shortest of all is *Old Man in New World* (1944), which looked forward to a world state in the 1970s. Two years earlier, *Darkness and the Light* suggested the prospect of two alternative futures for mankind, with communism as the dark menace.

In *Death into Life* (1946), he re-explored the past, present and future through the ubiquitous 'spirit of man'. More mystical than scientific, this 'fantasia' contained only faint reflections of his first tremendous work. *The Flames* (1947), another short novel, relies on the pleasant fancy that sentient life-forms native to the sun and stranded on Earth might be revived through atomic fission to become spiritual guides to blundering mankind—a theme by no means new to science fiction. But it did little more than underline the author's previous statements on what he called 'the tragic disorder of our whole terrestrial hive'.

His last novel, *A Man Divided* (1950), published shortly before his death at the age of 64, is mainly interesting as providing further insight into Stapledon's own personality and the shaping of his philosophy. Though ostensibly the tale of a man of dual personality who is influenced by a woman with psychic powers, it clearly derives from his own varied experience and his efforts to resolve his intellectual conflicts.

Even more enlightening is the posthumous work, *The Opening of the Eyes,* which was completed for publication in 1954 by his widow, Agnes, who is still active in her eighties. In the words of his lifelong friend Dr EV Rieu, in a preface to the book, it describes how Stapledon had 'reached the goal of his thinking' and 'come to terms with reality' shortly before he died. His conclusion was that, although God might be an illusion, 'Without the fiction of your existence, I am no more than a reflex animal and the world is dust.'

The Fantasies of Olaf Stapledon

These are given in chronological order, as published in the UK. Dates in brackets indicate subsequent or sole publication in the USA. Paperback editions are not listed.

1930 (1931): Last and First Men. 1932: Last Men in London. 1935 (1936): Odd John*. 1937: Star Maker. 1942 (1973): Darkness and the Light. 1944: Old Man in New World. 1944: Sirius. 1946: Death into Life. 1947: The Flames. 1950: A Man Divided.

*Included in *Novels of Science* (1945), ed. Donald A Wollheim.

Collections:

(1949): Worlds of Wonder (*The Flames, Death into Life, Old Man in New World*).

(1953): To the End of Time: The Best of Olaf Stapledon, ed. Basil Davenport (*Last and First Men, Star Maker, Odd John, Sirius, The Flames*).

'But one thing is certain. Man himself, at the very least, is music, a brave theme that makes music also of its vast accompaniment, its matrix of storms and stars.' Olaf Stapledon ends his great masterpiece LAST AND FIRST MEN with this statement and it is the same theme that runs through this short story. A WORLD OF SOUND is something of a collectors' item since it is the first short story Stapledon ever wrote (he only wrote two) and has only appeared in print once before, in 1937.

A WORLD OF SOUND

BY OLAF STAPLEDON

Chris Bant

THE room was overcrowded and stuffy. The music seemed to have no intelligible form. It was a mere jungle of noise. Now one instrument and now another blared out half a tune, but every one of these abortive musical creatures was killed before it had found its legs. Some other and hostile beast fell upon it and devoured it, or the whole jungle suffocated it.

The strain of following this struggle for existence wearied me. I closed my eyes, and must have fallen asleep; for suddenly I woke with a start. Or seemed to wake. Something queer had happened. The music was still going on, but I was paralysed. I could not open my eyes. I could not shout for help. I could not move my body, nor feel it. I had no body.

Something had happened to the music too, and to my hearing. But what? The tissue of sounds seemed to have become incomparably more voluminous and involved. I am not musical; but suddenly I realised that this music had overflowed, so to speak, into all the intervals between the normal semitones, that it was using not merely quartertones but 'centitones' and 'millitones', with an effect that would surely have been a torture to the normal ear. To me, in my changed state, it gave a sense of richness, solidity and vitality quite lacking in ordinary music. This queer music, moreover, had another source of wealth. It reached up and down over scores of octaves beyond the range of normal hearing. Yet I could hear it.

As I listened, I grew surprisingly accustomed to this new jargon. I found myself easily distinguishing all sorts of coherent musical forms in this world of sound. Against an obscure, exotic background of more or less constant chords and fluttering 'leafage', so to speak, several prominent and ever-changing sound-figures were playing. Each was a persistent musical object, though fluctuating in detail of gesture and sometimes ranging bodily up or down the scale.

Suddenly I made a discovery which should have been incredible, yet it seemed to me at the time quite familiar and obvious. I found myself recognising that these active sound-figures were alive, even intelligent. In the normal world, living things are perceived as changing patterns of visible and tangible characters. In this mad world, which was coming to seem to me quite homely, patterns not of colour and shape but of sound formed the perceptible bodies of living things. When it occurred to me that I had fallen into a land of 'programme music' I was momentarily disgusted. Here was a whole world that violated the true canons of musical art! Then I reminded myself that this music was not merely telling but actually living its story. In fact it was not art but life. So I gave rein to my interest.

Observing these creatures that disported themselves before me, I discovered, or rather re-discovered, that though this world had no true space, such as we perceive by sight and touch, yet it did have a sort of space. For in some sense these living things were moving in relation to me and in relation to one another. Apparently the 'space' of this world consisted of two dimensions only, and these differed completely in quality. One was the obvious dimension of tonality, or pitch, on the subtle 'keyboard' of this world. The other was perceived only indirectly. It corresponded to the heard nearness or remoteness of one and the same instrument in the normal world. Just as we see things as near and far through the signification of colour and perspective, so in this strange world, certain characters of timbre, of harmonics, of overtones, conveyed a sense of 'nearness'; others a sense of 'distance'. A peculiar blatancy, often combined with loudness, meant 'near'; a certain flatness or ghostliness of timbre, generally combined with faintness, meant 'far'. An object receding in this 'level' dimension (as I called it) would gradually lose its full-bodied timbre, and its detail and preciseness. At the same time it would become fainter, and at last inaudible.

I should add that each sound-object had also its own characteristic timbre, almost as though each thing in this world were a theme played by one and the same instrument. But I soon discovered that in the case of living things the timbre-range of each individual was very wide; for emotional changes might be accompanied by changes of timbre even greater than those which distinguish our instruments.

In contrast with the variegated but almost changeless background or landscape, the living things were in constant movement. Always preserving their individuality, their basic identity of tonal pattern, they would withdraw or approach in the 'level' dimension, or run up or down the scale. They also indulged in a ceaseless rippling play of musical gesture. Very often one of these creatures, travelling up or down the scale, would encounter another. Then either the two would simply interpenetrate and cross one another, as transverse trains of waves on a pond; or there would be some sort of mutual re-adjustment of form, apparently so as to enable them to squeeze past one another without 'collision'. And collision in this world seemed to be much like dissonance in our music. Sometimes, to avoid collision, a creature needed merely to effect a slight alteration in its tonal form, but sometimes it had to move far aside, so to speak, in the other dimension, which I have called the 'level' dimension. Thus it became for a

while inaudible.

Another discovery now flashed upon me, again with curious familiarity. I myself had a 'body' in this world. This was the 'nearest' of all the sound-objects. It was so 'near' and so obvious that I never noticed it till it was brought into action. This happened unexpectedly. One of the moving creatures inadvertently came into collision with a minor part of my musical body. The slight violation of my substance stabbed me with a little sharp pain. Immediately, by reflex action and then purposefully, I readjusted my musical shape, so as to avoid further conflict. Thus it was that I discovered or re-discovered the power of voluntary action in this world.

I also emitted a loud coruscation of musical gesture, which I at once knew to be significant speech. In fact I said in the language of that world, 'Damn you, that's my toe, that was.' There came from the other an answering and apologetic murmur.

A newcomer now approached from the

silent distance to join my frolicking companions. This being was extremely attractive to me, and poignantly familiar. Her lithe figure, her lyrical yet faintly satirical movement, turned the jungle into Arcadia. To my delight I found that I was not unknown to her, and not wholly unpleasing. With a gay gesture she beckoned me into the game.

For the first time I not only changed the posture of my musical limbs but moved bodily, both in the dimension of pitch and the 'level' dimension. As soon as I approached, she slipped with laughter away from me. I followed her; but very soon she vanished into the jungle and into the remoteness of silence. Naturally I determined to pursue her. I could no longer live without her. And in the exquisite harmony of our two natures I imagined wonderful creative potentialities.

Let me explain briefly the method and experience of locomotion in this world. I found that, by reaching out a musical limb and knitting its extremity into the sound-pattern of some fixed object at a distance, in either dimension or both, I obtained a purchase on the object, and could draw my whole body toward it. I could then reach out another limb to a still farther point. Thus I was able to climb about the forest of sound with the speed and accuracy of a gibbon. Whenever I moved, in either dimension, I experienced my movement merely as a contrary movement of the world around me. Near objects became nearer, or less near; remote objects became less remote, or slipped further into the distance and vanished. Similarly my movement up or down the musical scale appeared to me as a deepening or heightening of the pitch of all other objects.

In locomotion I experienced no resistance from other objects save in the collision of dissonance, which I could generally avoid by altering my shape. I discovered that a certain degree of dissonance between myself and another offered only very slight resistance and no pain. Indeed, such contacts might be pleasurable. But harsh discords were a torture and could not be maintained.

I soon found that there was a limit to my possible movement up and down the scale. At a point many octaves below my normal situation I began to feel oppressed and sluggish. As I toiled downwards my discomfort increased, until, in a sort of swoon, I floated up again to my native musical plane. Ascending far above this plane, I felt at first exhilaration; but after many octaves a sort of light-headedness and vertigo overtook me, and presently I sank reeling to the few octaves of my normal habitat.

In the 'level' dimension there seemed to be no limit to my power of locomotion, and it was in this dimension chiefly that I sought the vanished nymph. I pressed forward through ever-changing tonal landscapes. Sometimes they opened out into 'level' vistas of remote, dim, musical objects, or into 'tonal' vistas, deep and lofty, revealing hundreds of octaves above and below me. Sometimes the view narrowed, by reason of the dense musical 'vegetation', to a mere tunnel, no more than a couple of octaves in height. Only with difficulty could I work my way along such a passage. Sometimes, in order to avoid impenetrable objects I had to clamber far into the treble or the bass. Sometimes, in empty regions, I had to leap from perch to perch.

At last I began to weary. Movement became repugnant, perception uncertain. Moreover the very form of my body lost something of its pleasant fullness. Instinct now impelled me to an act which surprised my intellect though I performed it without hesitation. Approaching certain luscious little musical objects, certain very simple but vigorous little enduring patterns of timbre and harmony, I devoured them. That is, I broke down the sound-pattern of each one into simpler patterns; and these I incorporated into my own harmonious form. Then I passed on, refreshed.

Presently I was confronted by a crowd of the intelligent beings tumbling helter skelter towards me, and jostling one another in their haste. Their emotional timbre expressed such fear and horror that my own musical form was infected with it. Hastily moving myself several octaves toward the bass to avoid their frantic course, which was mostly in the treble, I shouted to them to tell me what was the matter. As they fled past I distinguished only a cry which might be translated, 'The Big Bad Wolf'.

My fear left me, for now I recognised that this was a flock of very young creatures. So I laughed reassuringly, and asked if they had encountered the lovely being whom I was seeking. And I laughed to myself at the ease and sweetness with which her musical name came to me when I needed it. They answered only with an augmented scream of infantile grief, as they faded into the distance.

Disturbed, I pursued my journey. Presently I came into a great empty region where I could hear a very remote but ominous growl. I halted, to listen to the thing more clearly. It was approaching. Its form emerged from the distance and was heard in detail. Soon I recognised it as no mere childish bogey but a huge and ferocious brute. With lumbering motion in the bass, its limbs propelled it at a surprising speed. Its harsh tentacles of sound, flickering hither and thither far up into the treble, nosed in search of prey.

Realising at last the fate that had probably befallen my dear companion, I turned sick with horror. My whole musical body trembled and wavered with faintness.

Before I had decided what to do, the brute caught sight of me, or rather sound of me, and came pounding toward me with the roar and scream of a train, or an approaching shell. I fled. But soon realising that I was losing ground, I plunged into a thicket of chaotic sound, which I heard ahead of me and well up in the treble. Adapting my musical form and colour as best I could to the surrounding wilderness, I continued to climb. Thus I hoped both to conceal myself and escape from the reach of the creature's tentacles. Almost fainting from the altitude, I chose a perch, integrating my musical limbs with the pattern of the fixed objects in that locality. Thus anchored, I waited, motionless.

The brute was now moving more slowly, nosing in search of me as it approached. Presently it lay immediately below me, far down in the bass. Its body was now all too clearly heard as a grim cacophony of growling and belching. Its strident tentacles moved beneath me like the waving tops of trees beneath a man clinging to a cliff-face. Still searching, it passed on beneath me. Such was my relief that I lost consciousness for a moment and slipped several octaves down before I could recover myself. The movement revealed my position. The beast of prey returned, and began clambering awkwardly toward me. Altitude soon checked its progress, but it reached me with one tentacle, one shrieking arpeggio. Desperately I tried to withdraw myself farther into the treble, but the monster's limb knit itself into the sound-pattern of my flesh. Frantically struggling, I was dragged down, down into the suffocating bass. There, fangs and talons of sound tore me agonisingly limb from limb.

Then suddenly I woke in the concert hall to a great confusion of scraping chairs. The audience was making ready to leave.

The history of the science fiction magazine in England has been somewhat erratic; magazines have appeared and disappeared at irregular intervals leaving great gaps which usually instigated withdrawal symptoms in sf addicts. To fill these gaps sf fans have come together in various parts of the country at various times and produced their own magazines. In this instance science fiction reveals itself as an almost unique form of literature being perhaps the only genre to invite such an enthusiastic response from its fans. In this series of articles we've asked 'fanzine' editors to talk about themselves and their magazines in the hope that the 'fanzine' will be brought more sharply into focus.

FANZINES IN FOCUS

Peter Weston and Speculation

'YOU SUDDENLY see a fanzine and think, My God! I must do one!'—Peter Weston reminiscing on how it all started. Today *Speculation*, several times Hugo nominee, Nova 1973 and Europa 1972 awards winner, is arguably the best science fiction fanzine produced in England. Containing articles, book reviews; discussions with writers, letters etc, *Speculation* is one of the most easily accessible fanzines for the newcomer, and the one in which he is most likely to find familiar material.

Inspiration came to Peter Weston, founder and editor of *Speculation*, in the shape of a grubby little green thing which went by the name of *Les Spinge* (from the habit of certain Stourbridge fans who went round poking each other and saying 'Spinge!!!'); although 'terribly amateurish' by today's standards, this publication, the first fanzine Peter Weston had ever seen, fired his imagination and infused him with a desire to produce his own magazine. As he says:

'I spent the next three months working on a fanzine which was to contain articles and reviews by fellow-members of the Erdington Science Fiction Circle (I'd been a member of this group for about six months) all four of us writing little essays on the books we liked.'

The first issue was done on a Banda Duplicator at the company Peter was then working for; it was very small, purple and indecipherable. As he admits:

'It was a typical first issue; every editor has the first issue blues, or in my case purples. The first issue of almost every fanzine is something people are slightly ashamed of and nostalgic for, and which they prefer not to show to people. After that you start getting things right.'

In fact Pete reckons he did things completely the wrong way round. According to him one should first join sf fandom, read other fanzines for a couple of years, and then see where there's a gap in the field. What *he* did was start entirely from scratch, making his own contacts, finding his own contributors and learning the rules as he went along.

Zenith (as the fanzine was first called) coincided with a lull in sf both in England and the USA, so Pete can claim to have been the only person in the world publishing an amateur science fiction orientated magazine at that time. Also *Zenith* was revolutionary in that it was the first English fanzine to take advertising. In the fifth issue Peter Weston had an advert from *Four Square Books* which enabled him to include a very attractive Eddie Jones wash painting as a black and white half-tone wrap-around. As he recalls, in its first year *Zenith* beat all English fanzine records for appearance.

Financial independence is another of *Zenith/Speculation's* attributes. Peter Weston started selling his fanzine at the 'ridiculous' price of 1/- each, and six for 5/-, but escalation came in quite quickly. Since *Zenith* was what is known as a 'sercon'—a serious and constructive publication about sf—and was aimed at a broad spectrum, as well as being easily accessible, it quickly gained a lot of readers. It went on sale publicly in Birmingham (smashing all sorts of taboos in the process) through Pete actually delivering them to bookstalls by hand. Initially Pete found the fanzine dug deep into his apprentice's pay, 300 copies of 50 pages each produced on a duplicator, along with postage and envelopes not coming cheap even then. But, as he says:

'Bread cast on the waters then is coming back a thousandfold. After ten years of very hard work *Speculation* is now paying off tremendously.' From issue six onwards *Zenith* had more USA subscribers than British ones, simply because there are more fans there. Today two-thirds go to the USA.

In contrast to most fanzines which usually run to roughly 100 copies each issue, Peter Weston immediately aimed at an ambitious number—150, rising quickly to 200 and 300. From issue ten he was restricting circulation to 500—the maximum he felt he could handle, since production was always a nightmare:

'Production problems fade into a sort of limbo. Every issue has been an agony. There are 20,000 sheets of paper to be put through a Gestetner Duplicator which invariably goes wrong half way. There's been a special disaster issue in which every single thing went wrong, and a blood-spattered issue where I caught my thumb on the stapling machine—nasty! and an issue in which the ink *looked* all right when printed but never actually *dried*!'

Starting with no experience, Pete Weston has had to cope with the problems of finding duplicators, cutting stencils, (wax ones at first), designing layouts, typing and collating as well as the actual collecting, writing and editing of the material. In the early days *Zenith* was one of the best laid-out fanzines, but now Pete says he would rather spend time on getting good material to read and drop the accent on illustration and presentation.

Sources and contacts can be regarded as the life-blood of any fanzine. Pete Weston considers himself very fortunate in that he has been able to establish such good contacts over the last ten years:

'If there's one thing I feel proud of in my time in sf it's that I have been responsible for bringing in and helping to bring in a lot of good people to sf fandom.'

He has also done a lot of promotional work to get outside fandom, such as putting ads in *The Writer*, *New Worlds* and *International Times*; from these and other diverse sources he's drawn people like Jack Cohen, Mark Adlard and Tom Shipley, and has therefore always been able to include quite a high proportion of professional content in *Speculation*.

Fanzine production is of course a spare time activity for the majority of editors, but it is a full time interest as Pete admits, taking in friends, hobbies, holidays and family:

'I've worked hard for ten years and *Speculation* is a success, and although I'm not entirely the serious young sf student I was, it is still one of my prime reasons for living!'

As well as producing *Speculation*, Pete writes for other publications, organises sf cons, and runs the Birmingham Science Fiction Group which he relaunched in 1971. This activity in the fan world has meant a drop in *Speculation* issues. Whereas he used to be able to bring out four or five issues annually, he has not been able to produce an issue now for over a year. This by no means infers that *Speculation* is dead—far from it! The fanzine is Pete's first love and he fully intends to keep it going. (Meanwhile readers please note that Pete is up to his eyebrows in a new house, a new baby and a new job, but only a rapidly dwindling supply of *Speculations*. Hopefully a new issue will appear soon so keep your eyes peeled and your enquiries till later!)

Pete finds that doing everything himself is the only way to produce the fanzine; otherwise he loses the sense of personal involvement. As far as he's concerned it's a one man band except for the collation. As he says:

'Putting pages in order and stapling them has been known to cause madness!' Fortunately he has enlisted the willing labour of Bob Rickard and the Aston University sf Group in this matter.

Science Fiction has come a long way since the days when enthusiasts like Peter Weston had to apply direct to the Post Master General for permission to spend fifteen bob of the country's money on American sf books. One of the reasons for this change is the host of sf fanzines now available, with *Speculation* in the foreground, which offer readers informed discussion on all matters sf. Roll on the next issue!

Aune R Butt

SCIENCE FICTION
NEW ENGLISH LIBRARY MONTHLY

SPACE RANGER by Isaac Asimov.
Painting by Bruce Pennington.

JANUARY

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Presented with Science Fiction Monthly. Painting by Ray Feibush.

The mirror on one of the three small screens [illegible] Remnov's desk [illegible] Programme [illegible] Galentic [illegible] assistant, [illegible] without preliminaries.

[illegible] Remnov liked *Conquest*. [illegible] office of a Galentic employee, but the [illegible] afternoon.

'You k[illegible] patient, [illegible] it. Didn't [illegible] Carsen.'

'Tor Carsen, sir. He was with the first team to [illegible] Elysium.' Atinga smiled.

'Are you sure?'

Positive.

'What's he doing here?'

'Why does anyone come to Elysium?'

'No,' said Remnov slowly. 'I don't think so. He was too old for that.' He paused. 'It was almost fifty standard years ago. I though they were all—er—dead by now, the ones who arrived first. Killed by the beasts, or else . . .'

There was no need for him to say what used to happen, and Remnov tried not to think about it.

'All right,' said Atinga, 'we could show *Conquest* tonight and then get Carsen to [illegible] talk about his own experiences and how he managed to survive.'

Remnov [illegible] said: 'Go ahead.'

The galaxy was [illegible]

[illegible] them off [illegible] News of [illegible] with [illegible] the Moon, [illegible] two observers [illegible] the Galentic [illegible] Affairs [illegible] Department of Galentic Affairs [illegible] Galentic guard.

Carsen and Hassan knew [illegible] little hope from Galentic and that they were regarded as hostile intruders [illegible] company couldn't be blamed [illegible] After all, they had discovered the planet and certainly held some claim to it. But they had to realise they couldn't get away with anything and everything. Far too much had been lost forever in the previous half century of uncontrolled expansion. If this went on, who would tell what the next fifty years would bring?

If the companies wouldn't co-operate, then threats and persuasion would have to be used until they did. Surely they could understand that it was possible to act responsibly and still make money. In most cases the Department was perfectly willing to let the traders do as they liked. That was because most worlds were both uninhabited and uninhabitable.

[illegible]

'W[illegible] gentlemen,' [illegible] top Galentic [illegible] n, accepting [illegible] the [illegible] We can't keep [illegible] for a quick [illegible], thought [illegible] Maybe he [illegible] that if we think [illegible] us [illegible], we'll [illegible] But Carsen [illegible] [illegible] the Galentic [illegible] had time to form [illegible] Welcoming [illegible] sun; warm climate [illegible] breeze; undulating fertile [illegible] kilometres of grass [illegible] aquamarine sea. The men [illegible] had named it Heavy [illegible] wasn't hard to see [illegible]

[illegible] report Galentic had [illegible] relevant facts and [illegible] tenth of Heaven was [illegible] larger than a [illegible] Instead [illegible] tiny [illegible] less [illegible]

There [illegible] planet's inhab[illegible] because he knew [illegible] covering up som[illegible]

'How are you plan[illegible] world?' Hassan demanded [illegible] down in the floater.

'We have a choice of [illegible] Polimoto mildly. 'It take[illegible] which combination will be the most rewarding

BY DAVID S GARNETT

THE LEGEND OF GX-118

if, indeed, any.'

The freighter had landed near the coast, away from the company's main base. Galentic's headquarters had been established inland on one of the largest islands, but it was towards the sea that Polimoto steered the unwheeled vehicle.

'You mean,' said Hassan, 'there mightn't be anything you can make money out of?'

'Very few companies pull out of any world,' Polimoto told him. 'We usually find something we can sell . . . to someone . . . somewhere.'

Hassan frowned disapprovingly.

'What about the natives?' said Carsen.

A full report of two years' investigation into the commercial possibilities of GX-118 follows, but I would like to summarise briefly the position regarding the indigenous population.

Our linguist can communicate with the natives, although they show a lack of enthusiasm for work and almost no interest in us. There is much we could trade to them, but they have nothing to offer in return: no craftwork or curios, for example. They do not seem to understand the idea of barter, which indicates a very low level of development. Yet as you are well aware, it must be determined—according to the Department of Extra-Terrestrial Affairs—if the natives are intelligent and therefore whether we have to bargain with them for development rights. This seems ludicrous, as they show absolutely no inclination to have anything to do with us.

I have received your warning about the arrival of the two DETA men, and shall proceed as instructed. I will keep you informed of their behaviour and reactions. Should things not turn out as anticipated, I would appreciate further orders as to how they should be dealt with.

'No,' said Polimoto in reply to Carsen's query. 'We've had no illnesses of any sort. And before Mr Hassan asks the obvious, we haven't infected the natives with any Terran diseases. The doctor tells me that if anything we're healthier than when we arrived. Clean air and good food, I guess.'

Carsen nodded. 'You could always turn it into a resort world.'

'Don't give him ideas,' said Hassan.

'Don't panic,' said Polimoto. 'We're already considering such a scheme.'

Carsen finished his meal and pushed the plate to one side. 'Very good. Local?'

'Yes, from the sea.'

'A great asset, the sea,' said Carsen, 'if you're planning a tourist planet. And you've got the climate for it. Healthy, too. No hostile creatures. Friendly natives. They are friendly?'

Polimoto nodded, still chewing on a thick chunk of white fish.

It was their second day on Heaven, and both days had been crowded. Polimoto had seemed only too pleased to help them and go wherever they wanted; he hadn't even appointed a subordinate as a guide, preferring to act as host himself. That way he could keep both eyes on his unwelcome guests all the time.

'It's a wonder you don't have them serving you at the table,' Hassan commented sourly, that being his appointed role.

'If we could, perhaps,' answered Polimoto, smiling. 'But that fish you've eaten was caught by us, not by the natives. They catch fish, of course, but they won't trade with us.'

'Could it be,' said Hassan 'that you have nothing they want?'

Polimoto shook his head. 'They're just stupid.'

'I don't think so. That they can find their way amongst so many islands indicates some intelligence, at least.'

'Birds migrate.'

'But these people use boats,' continued Hassan. 'Catamarans with sails. Of course they're intelligent. They're human. They're almost exactly like you and me. You can tell that by looking at them.'

'They're not human. They might have been once, but not any more.' Polimoto filled his glass to the brim with pale wine, adding: 'Don't be deceived by appearances.'

Carsen and Hassan had seen quite a few of the natives during the day. All had been small and light-skinned, but so were many Earthmen. It seemed as though Galentic had found a world it would have to surrender. If these people were still developing, there must be no outside interference.

'They don't make fires,' went on Polimoto. 'They eat raw food.'

'So did your ancestors,' Carsen told him. 'Tell me: Have any of your men tried the native women?'

Hassan stared at him in disbelief, but the younger man ignored him. 'Have they?'

Polimoto shrugged, then nodded. 'I've had to discipline one or two of them. You know what it's like, and no one wants to have to take the pills.'

'What did they say about it?' asked Carsen. 'Or didn't they like discussing rape?'

Polimoto knew he couldn't get out of answering. 'They said the women didn't seem to know what was happening.'

'Any offspring?'

'Of course not.'

'Why "of course"?'

'You seen any children while you've been here?' They both said they hadn't.

'Nor have I,' said Polimoto, 'and I've been here two years. It's another example of why they're a dying race. They never make new canoes, just use old ones; they patch up old nets until they're in shreds, but they don't seem to know how to replace them; they live in ancient, tumbledown huts. We held a rough census, and there are less than 30,000 of them on the whole planet. And not one child. They're on the brink of extinction.'

'I didn't see anyone who was young,' said Carsen, 'but nor did I see anyone who was old.'

Polimoto's thick eyebrows rose, then fell as he frowned. He and Carsen simply looked at each other.

Hassan broke the silence. 'You realise what this probably means? No one old, no one young.' Then he told them.

It took only a few days before Hassan's hypothesis was proved beyond doubt: The natives of Heaven were immortal, and it was the waters of their planet which made them so.

'We'll all be millionaires,' said Polimoto over his celebrationary tumbler of vodka, referring to Galentic's profit-sharing bonuses. 'Even you.'

Hassan shook his head, and Carsen said: 'I don't think so.'

The other man looked surprised. 'But if it hadn't been for you two, it might have been years before we realised the truth.'

'You can't bribe us, Polimoto,' Hassan told him.

'It's no bribe!' said Polimoto harshly, slamming down his glass. Almost at once there was silence in the mess hall as the Galentic men watched their chief confront the DETA pair. Suddenly Polimoto laughed, a short humourless laugh. 'Okay,' he said, draining what he hadn't spilled. 'If that's how you want it, it's your hard luck.'

'What will happen now?' asked Carsen.

'Isn't it obvious?'

'Not to me.'

'This is the greatest thing in the whole Universe!' said Polimoto, stretching out his arms as if to demonstrate the magnitude of the Universe. 'To be able to live forever, barring accidents—and even now it has to be a very bad accident for transplants and prosthetics not to keep anyone alive. You ask what'll happen? We'll start to export immortality, that's what!'

'What about investigations into side-effects?' said Hassan.

'That's not up to me. And anyway, what possible bad effects are there to living forever?'

'Think of the people here,' said Hassan, 'and how they've stagnated. You said yourself they were a dying race.'

'Or if they're not dying,' added Carsen, 'they soon will be if you start taking the water. Cultural shock.'

'Cultural shit,' said Polimoto, and he walked away.

'We can't let them do it,' said Hassan.

'No. But maybe they'll discover what's so special about the water and be able to synthesise it.'

The other man nodded. 'It must have happened recently—within the last few thousand years—or else the natives would never have evolved this far. A meteor from another galaxy dissolving in the ocean, perhaps.'

Carsen was more concerned about the consequences than the reason. How could they contact the Department? Polimoto claimed that the base's hypertype machine was out of order. It was probably a lie. There was no other means of communicating with Earth, and the only way to leave Heaven was by Galentic ship. And Carsen knew Polimoto wouldn't let them leave.

One of the geologists shook him awake and said: 'You'd better follow me.'

Still half-asleep and undressed, Carsen followed the man outside, beyond the cluster of prefabricated domes and down a shallow dip. A dozen Galentic men were already there. Polimoto came up to him, a gun in his hand.

'Hassan's dead,' he said, motioning with his head.

Numbly, Carsen walked over to his companion's body. Hassan lay prone on the grass, a knife in his back. It was one of the knives the natives used for gutting fish.

Carsen stared at the two other shapes which lay in the hollow; small and naked and dead.

'They also got four of my men,' continued Polimoto, 'before we caught up with them.'

Carsen turned. He knew it was a frame-up. He started towards Polimoto. 'You liar!' he shouted.

Before he could take another step, someone shot him from behind. And as he fell a series of images flickered across his mind: a prophecy of the bloody vendetta that would follow as thousand upon thousand of the harmless, innocent people were slain. Harmless and innocent, but no longer immortal.

He'd wanted to come back to Heaven because . . .

But it wasn't called that any more, and it wasn't like it used to be. That 3V film they'd shown him, they'd got it all wrong. Didn't they know? Why wouldn't they listen to him? He knew, he could remember.

Carsen peered at the interviewer again, seeing him only dimly. The man tried not to look at him.

'Tor Carsen,' the man said. 'Tor Carsen, are you listening to me?'

'Yes.'

'Can you recall for us how you survived the first savage attack from the creatures.'

'Yes, I'm listening to you.'

The man got to his feet. 'It's no good,' he said to someone. 'We'll have to call it off. It was a lunatic idea. Stupid old fool. Turns my gut even to look at him. Don't know why they allowed him on the planet.'

'He's a hero,' said another voice.

'Some hero.'

The observers from the Department of Extra-Terrestrial Affairs always ran certain risks, both of death and of having their minds tampered with. But that was in the old days—before selling immortality had enabled Galentic to buy DETA and its staff a thousand times over.

Carsen was lucky, he was alive. Which was more than could be said for many others sent to find out what Galentic were doing on the world they later named Elysium. They'd made Carsen a hero, having suitably edited his memory. The interference with his brain had only half-succeeded, but it had also half-failed. Now he'd come back one last time, before it was too late, to try and find the missing pieces of recollection, to attempt to work out what had really happened to him on the planet once called Heaven.

He sat patiently, waiting for the man to ask his questions. There were things he could tell, things only he knew. Because hadn't everyone else died before more men had come and killed the planet's barbarous inhabitants? That was what they'd told him, those people who'd looked after him when he was rescued. He was the only one left. The only one.

Remnov switched off the centre screen, the only one of the three which still worked.

They couldn't use the interview with Carsen—if it could be called an interview. He felt a little sorry for the old man, but it was the same for anyone who'd passed puberty when Galentic had started marketing its 20cc bottles of Aquavita. Just like Remnov's own parents. He hadn't any children of his own, naturally, and neither was he married. But that was a small price to pay for eternity.

He looked out of the window, watching people splashing about in the shallow waters a few hundred metres away. When he'd first moved into this building, the shore had seemed closer. They'd have come dozens of parsecs just for a paddle. What a waste, thought Remnov. Though he was fortunate enough to work for Galentic and live on Elysium, he'd very rarely ventured into its life-giving waters. He preferred to take his daily dose out of a bottle. It was much simpler.

What should he do about *Conquest of Eternity?* It was a great favourite of his and everyone else. He must have seen it fifty times: The first landing on the planet; the meeting with the huge, pig-faced reptilian natives; the attempts to negotiate with them; their treacherous attack on the humans' camp; how they tried to stop mankind discovering the secret of living forever; how they were defeated and chose death rather than surrender. They'd died by the thousand, so all that remained of them were a few animated corpses which roared and snarled in cages for the amusement of pilgrims to Elysium.

It was a good film. An all-time best. A pity they no longer made them like that.

Remnov came to his decision. Once every three months wasn't too often for it to be screened. You couldn't have too much of a good thing.

Tim White

ARE YO
ALIVE

(AND INTELLIGENT) OUT THERE?

By C D Renmore

What is life? What is intelligence? Don't worry, I shall not attempt to answer such philosophical questions here. Yet we all wonder at one time or another whether there might be 'intelligent life as we know it' on other worlds out there in space.

Malcolm Poynter

There is a very great difference between asking whether there is life on other planets within our own solar system, and asking whether there could be life on planets orbiting other stars. The question of life in our solar system is one which we can expect to settle by direct exploration before the end of the present century; perhaps even within the next decade. But the nearest star is thousands of times as far away from us as the farthest planet, and this difference of scale is crucial. From such a great distance, we cannot even tell for certain whether the nearest star has any planets circling it, let alone whether any of them supports life as we know it. The direct exploration of the stars is a totally different sort of challenge from the exploration of the planets. Exploring the planets is rather like getting to know your neighbours in the same road; going to the stars is more like emigrating to Australia.

To begin with, then, I shall talk about life in our solar system. Now if you are a biologist, you would be fascinated by the prospect of finding even a few simple plants on Mars or Venus. For most of us, though, the really interesting question is whether there is a chance of our explorers meeting intelligent beings like themselves with whom they can communicate. Our unmanned interplanetary probes are at this very moment reaching out towards the very limits of the solar system, transmitting information back to us for as long as their power supplies last. Armed with this increasing knowledge of our near neighbours in space, we can begin our search for extraterrestrial life in the confident belief that the matter will be settled one way or the other within the next few years.

Our solar system

We are searching for intelligent life as we know it, so it is natural to start with the members of the sun's family which seem most closely to resemble the Earth: Mars and Venus.

Mars has caught the imagination of writers ever since Lowell suggested, towards the end of the last century, that the 'canals' he claimed to have seen might be evidence of advanced life on that planet. Although he has since been discredited, the recent Mariner space probes have found what look like dried-up river beds, suggesting that running water was once a feature of the Martian surface even though it does not appear to be so now. The atmospheric pressure on the surface of Mars is too low to sustain the sort of animal life that we see here on Earth, although the biologists working on the Viking mission (due to land an unmanned probe on Mars in 1976) are planning experiments to detect every possible manifestation of life as we know it. The evidence so far does not encourage scientists to expect advanced life there; not, at least, on the visible surface of the planet.

Venus, the evening star, presents astronomers with greater difficulties than Mars for one very good reason: they cannot see the surface directly. Venus is covered by what seems to be a dense cloud layer and will not give up her secrets so readily. To 'see' through the clouds it has been necessary to use radar signals and ultraviolet light.

Venus seems pretty inhospitable to life as we know it. The Venus IV canister, parachuting down to the surface of Venus in 1967, reported a temperature of over 550° F and pressures over twenty times as great as Earth surface atmospheric pressure before its transmissions ceased. Mariner X found this year that there are traces of sulphuric acid in the atmosphere of Venus; yet this by no means rules out the presence of life in some form. Remarkable experiments here on earth have identified organisms which can withstand that sort of environment!

After Mars and Venus, where shall we try next? How about Earth—is there intelligent life on Earth?

Now that photographs of the Earth from space are available, we can look at them from an outsider's point of view and ask: what sort of observations, and from how far away, give definite evidence to an observer in space that there is indeed intelligent life on Earth? What we are really doing here is to ask our starting question in a back-to-front manner; and in so doing, we can learn more about how to detect life on other planets by remote measurements. The results are very informative—and very surprising as well.

Carl Sagan (Cornell University) has studied satellite photographs of Earth and concludes that ordinary photography shows no signs of intelligent life on Earth until features as small as one hundred yards across can be distinguished! This seems incredible when you think of the size of cities, airfields and so on; but remember that we are looking for *intelligent* life, and this means that we need evidence of order and pattern. Cities admittedly do show up as big smudges on less detailed photographs, but what does that prove? And their lights are visible at night, too—but that could be due to some chemical process, or even volcanic action. We have to accept that ordinary photography is not much good at detecting signs of intelligent life at long distance, which is what we are really interested in. What other indications are there that work over interplanetary (or even better, interstellar) distances?

One powerful technique for detecting life (though it will not tell us whether that life is intelligent or not) is spectroscopy. Spectroscopy is basically the study of light after it has been split up into its component colours by a prism or some equivalent device. From a study of the spectrum, as it is called, one can find which substances are present in the source of light and in what quantities. The planets shine only by reflected light, as does the Moon, but even so their atmospheres can be studied.

That is, if they have any atmosphere.

By looking out for the proportions (not merely the presence) of certain specific gases associated with the functioning of plant and animal life, it is possible to draw some tentative conclusions about the presence of life on the planet being studied. These tests can be carried out on the planets within our solar system, and so far the indications are that only the Earth's atmosphere contains significant departures from chemical equilibrium—the evidence for life. It must be added, though, that there is a need for improved accuracy in the measurements and it is still possible that Mars or Venus have methane or ammonia in their atmospheres, but in quantities too small to detect at present.

This sort of test is probably limited to distances within the solar system, and as I have said, it does not tell us definitely whether any life we may have detected is intelligent or not. We need some way of telling this, and we need it to work over the greatest possible distances—preferably all the way to the stars. Is there any method of detection that is so long-range and so reliable?

To answer this, I would like to return to a point made earlier: the best evidence of intelligent life is some sort of unmistakeable pattern; something that could not by any stretch of the imagination have occurred by chance. Suppose for the moment that you are observing the

'Of the hundred thousand million stars in our galaxy, about one in a hundred thousand would be expected to support an advanced technical civilisation. That means about a million such civilisations in existence now!'

Earth with equipment as advanced as we have now; you are well outside the solar system, far beyond the orbit of Pluto. It is impossible to tell by ordinary photography whether there is intelligent life; the spectroscopic evidence indicates that life of some sort is definitely present; but what other information would you receive? The answer is, of course, radio signals. Our radio transmissions are centred about particular frequency bands and show evidence of order that does not correspond to any simple natural process; they are conclusive, long-range evidence of intelligent life. What do we find when we turn our giant radio telescopes towards the planets?

The brightest object in the radio sky is the planet Jupiter, the largest member of the sun's family. Its radio emissions are intense, but we can discern no pattern, no evidence of order. They seem to be bursts of noise—perhaps having their origin in violent electrical storms. Jupiter has been compared with a vast chemical laboratory; an enormous cauldron in which Nature experiments with mixtures which might eventually produce life. There are belts of intense radiation around Jupiter which would kill a man, and which nearly burned out the detectors on the Pioneer space probe when it flew past the planet last December. Yet life on Jupiter is by no means impossible, though it may be restricted to primitive micro-organisms. Experiments by Ponnamperuma (University of Maryland) on simulated Jovian atmospheres indicate that even Earth bacteria can survive for at least a day at one hundred times normal atmospheric pressure and in a temperature of −330°F. The 'atmosphere' in these experiments consisted of hydrogen, methane and ammonia, which says quite a lot for the hardiness of the bacteria concerned.

The exploration of the outer planets and Mercury is well under way; all we need note here is that conditions seem so severe that only the most primitive organisms are likely to be capable of surviving. There is, so far, no sign of life as we know it. We have to admit that the chances of finding intelligent life as we know it in our own solar system are very remote indeed.

In that case, is there really much point in exploring the remainder of the solar system if we shall only find, at most, a few simple plants and bacteria?

The answer to that depends on the answer to another question: are we interested in finding out about the likelihood of life beyond our own family of planets, out there across the gulf between the stars? If we are, then we must understand as much as possible about the nature and origin of the solar system and ourselves as part of it. Only when we have a theory which fits all the data for our star and our planets can we extrapolate with confidence to other stars and other planets.

Other solar systems

At this juncture, honesty compels me to mention a point which is hardly ever raised in a discussion of extraterrestrial life: we are about to try and explain a null result, using arguments which some scientists at least still regard as sheer speculation. We shall be violating that most basic of rules in science, the Razor of Occam. According to the Razor, the simplest (and therefore the best) explanation for observing nothing is that there is nothing to observe. For let us be absolutely clear on this point: there is no direct and conclusive evidence yet that there are any planets at all beyond our own solar system, let alone any planets supporting intelligent life! Yet an increasing number of scientists are coming to the view that there must be other planets—possibly in enormous numbers—in the Galaxy as a whole. It is our business now to examine the grounds for that belief.

We are asking the question: could there be intelligent life on planets outside our solar system? We must first ask, however, whether there *are* any planets beyond our own system.

With no direct evidence to help us, how can we begin to tackle such a problem? By looking around us, within our own family of planets, and deciding on how our own solar system was formed. If, in order to explain it, we have to invoke fantastically improbable events (such as the close approach to the sun of another star at some remote past epoch) then we shall reach a very pessimistic conclusion. But if we can understand the origin and major characteristics of the solar system by appealing only to well-established laws and highly probable chains of events, then our conclusion must be that planets are indeed abundant in association with stars; and that therefore we are probably not alone in the Galaxy. Now it is perhaps clearer why we need to know as much as possible about our own solar system.

The 'encounter hypothesis' in which a star came close to the sun and produced tidal waves which splashed into space and then condensed to form the planets, was indeed put forward as a serious theory at the beginning of this century. When the consequences of this theory were worked out, however, they did not fit the sort of planetary system in which we find ourselves, and the theory has lost favour. The near-collisions required by the encounter hypothesis are indeed very rare events, such is the vastness of the gulf between the stars.

Present theories of the origin of the solar system centre upon the idea that the sun and all the planets formed about four thousand million years ago from the condensation of an interstellar dust and gas cloud. The details of this theory have been worked out and the predictions (which are the acid test of any theory) so far line up very well with the solar system as we know it. The more volatile constituents of the original cloud first condensed to form the outer gas giants like Jupiter; and the heavier elements separated out later to form the so-called terrestrial planets, closer to the sun. The asteroids and comets also have their places in this theory, and as more data comes in, the 'equilibrium-condensation model' as it is called, gains support. Very well, you may say; but what has all that to do with the question of extraterrestrial life? Quite a lot.

Firstly, the theory says that there is a close relationship between all the objects in the solar system, and that this relationship is the necessary and logical consequence of the laws of physics as we know them now; *that* gives us confidence, for a start. Secondly—and this is the vital point—the formation of planets appears to be a *normal by-product of the formation of a star*. Planets, therefore, should be common, not rare. We should note finally that the composition of the sun is just about the same as that of most stars. It is this sort of reasoning which has led to predictions of large numbers of inhabited planets and of advanced civilisations in our galaxy. Let's see what kind of numbers have been produced.

At a conference on Communication with Extra-Terrestrial Intelligence (CETI for short, if you like acronyms) Carl Sagan gave the results of some very tentative calculations. Of the hundred thousand million stars in our galaxy, about one in a hundred thousand would be expected to support an advanced technical civilisation. That means about a million such civilisations in existence now! But surely this means that we have reached a contradiction: we have been scanning the sky for over ten years now with our radio telescopes, yet we have picked up no messages from the stars. What has gone wrong? The interstellar telegraph lines must be jammed solid by now, surely? Has there been some terrible miscalculation in our theories and are we alone in the universe after all?

Are we alone?

It is a fact that our radio transmissions could be detected from the nearer stars using equipment no more advanced than we are using now. If (and it is a big if) there are all those civilisations out there, why haven't we heard from them? To understand Sagan's explanation of this, we need a little quick revision of distance measurements on an astronomical scale.

A light-year is *not* a unit of time but of *distance:* it is the distance that light would travel in a year. It is a rather large unit for measurements within the solar system, but quite suitable for the nearer stars. Light from the sun takes about eight *minutes* to reach us from about a hundred million miles away; it takes about five *hours* to reach the outermost planet, Pluto; but it takes over four *years* to reach even the nearest known star. Light would need about one hundred thousand years to cross the Galaxy completely.

Sagan estimates the average distance between advanced technical civilisations such as ours to be about five hundred light-years. We must get a feel for what that means, and some numbers might help.

Radio waves travel at the speed of light. So if we sent a message to the average-distance civilisation five hundred light years away—assuming that we knew in which direction to transmit—then the time we should have to wait before getting any response would be at least the round-trip signal time of a thousand years. That is, *if* they happened to be listening, *if* they recognised the message as a message, and *if* they thought it worth the effort of an immediate reply. A signal first sent out in say 1945 (when high-power radar transmissions were becoming common) might be expected to evoke a reply from an average-distance civilisation by the year 2945 (two thousand nine hundred and forty-five) at the earliest.

'Life on Earth began as a deliberate infection of micro-organisms placed here by another civilisation. We are therefore on a biological culture-plate or in an incubator, being observed (presumably) through some kind of microscope.'

Of course, there might be a communicative civilisation much nearer than five hundred light-years. If we really stretch the odds and assume that there is one only (!) fifty light-years distant, then we still have no right to expect a response to our transmissions before the year 2045 (two thousand and forty-five) at the earliest.

Look at it another way. If we assume that we

started sending sufficiently powerful radio transmissions thirty years ago, then they have reached out precisely thirty light-years and no further. Beyond that distance there is an information horizon beyond which *no receiver, no matter how sensitive*, could possibly detect our existence. If we seriously expect a response to our signals now, it means that the source of the reply must not be more than fifteen light-years away; and fifteen light-years is a lot less than the average figure of five hundred given by Sagan.

To sum up: there is no contradiction between the two statements that planets are relatively common and that we have not yet had any messages from the stars. It is precisely what one would expect at this stage. Yet the information horizon I mentioned is receding at the speed of light; the 'sphere of influence' within which signals from us can be received is swallowing space at an ever-increasing rate. If we compare the volume of space enclosed by our sphere of influence after twenty years with the volume after two years, we get a ratio of not ten to one but a thousand to one; and after two hundred years the volume enclosed has increased a millionfold. Eventually the tide of radio waves will sweep past some distant receiver and they will know—if they did not know already—that they are not alone. It is a waiting game, and at present there is little we can do but play it as patiently as we can.

Out of the corner of my eye I see the gleaming edge of the Razor of Occam. But it is too late to stop now: we must rush on to the very limits of possibility, and then keep going after that. If you are of a nervous disposition, or more than usually gullible, may I suggest that you read no further.

Speculations

One assumption we must make, if we are to continue at all, is that there really *is* someone out there, alive and intelligent. If we don't assume that then, by definition, there ain't much to speculate about.

Speculations, starting from that assumption, can be conveniently grouped under two headings: either 'they' are aware of us or they are not. Let's start with by far the more likely of the two: that they are *not* aware of us.

Top of the list of possible reasons why we haven't heard from them is the simple one that the news of our birth (in radio terms) has just not reached them yet. Even at the speed of light, our signals have only traversed about thirty of the five hundred or so light-years to the hypothetical average-distance advanced civilisation described by Sagan. Yet there is one big factor that I have not taken into account: interception.

Even if we accept that we cannot expect to have a response to our signals for a long time to come, why have we not intercepted the signals that they are sending to one another? Space should be full of signals radiating in all directions, just like ours; and some at least of these advanced civilisations must have been at it for a lot longer than we have. So what's wrong?

One possibility that has been put forward is that we have not been tuning in to the right frequencies. This is very reasonable, since it is far from obvious what 'natural' frequency one might choose. Our 'listening' frequencies in the past have been limited by those signals which can penetrate the atmosphere; a really systematic search would need an orbital radio telescope, free from this filtering effect and able to receive signals at any frequency. However, I have an idea of my own about why we have not intercepted the messages they are sending to one another.

Suppose that you were going to try and signal to someone whose position you knew accurately, using a torch at night. If they were several miles away you would adjust the torch focus to the narrowest possible beam to make the best possible use of the light from the bulb. You would certainly not remove the reflector and let the light go off in all directions, relying on them spotting the few thousandths of one percent that happened to go in their direction. This is just what we do with microwave links here on Earth: they have highly directional aerials in order to make the best possible use of the power available. If this technique is needed between two points on Earth, how much more necessary it will be for communication between the stars! The links, if they are at all of the sort

'Of course other civilisations have existed and destroyed themselves in nuclear wars, as we shall do in our turn, and that is why the radio sky is so quiet.'

we can imagine, will need to use very tight beams (like laser beams) in order to maximise the received power. It is not surprising that we have failed to intercept such beams. If they are unaware of our existence, they will not have a transmitter pointed in our direction.

Still continuing with the assumption that they are unaware of us, what other possibilities are there? Perhaps we have missed the point entirely and are in fact intercepting messages without even realising that they *are* messages; and the fact that they are not intended for us wouldn't make things any easier. How about gravitational waves? Thought waves?

And while on the subject of getting the message, here is a favourite puzzle of mine: when is a noise not a noise? When it's a signal, you will say, and quite right too. But how and when do you give up studying a transmission and decide that it is noise? This question is of great interest to military electronics experts; they want to disguise a signal to seem like noise (to the enemy). Have we really studied the radio 'noise' spectrum from space carefully enough? And in particular, have we studied it for *long* enough? Our own techniques for transmitting information over interplanetary distances (for example from the Pioneer and Mariner probes) can give a clue: we transmit the pictures one fragment at a time, building up each dot painfully and slowly, improving the signal to noise ratio by taking *more time* over the signal. If we need that for distances within our own solar system, what sort of scaling factor would apply between the stars? How long do you sample a waveform before deciding in your wisdom that it is just noise?

Incidentally, if we fail to recognise their signals as signals, there is a chance that they could make the same mistake with ours.

That would be one sort of time barrier—the sampling time needed to distinguish a signal from the background of noise. But there is another, equally fundamental kind of time barrier: the biological clock. Imagine trying to communicate with a flea; then with a tree. You see the point: the time-scales or lifetimes of the two are vastly different from one another and from the time-scale of a human being. A flea has a great deal it must do before it is ready to die, and it behaves accordingly. A tree, on the other hand, can live for five thousand years. All right, I'm not seriously suggesting that we should talk to the trees (though we might try listening to them) but the mere fact of such vast differences of tempo in the life-forms on our planet surely opens up at least the possibility that there may be comparable differences between even highly intelligent species in the Galaxy as a whole? What sort of frequencies might tree-like beings use to communicate? A few cycles per year? The information flow rate can afford to go down quite a lot when you can rely on fifty centuries of uninterrupted gossip.

The thing that we are slowly coming to appreciate is that *life is a property of matter*, neither more nor less. We have evolved under a special set of circumstances; are we therefore freaks, or is life universal and infinitely adaptable in response to the circumstances in which it exists? If we find life—*any* kind of life—on the other planets in the solar system, with their different conditions, then it will begin to look as though, given time, life can appear under virtually any conditions. Time is the key; with enough time, it is a property of matter that if you have the right mixture and you cook it until it is just right (you have all the time in the world, remember) then eventually it will organise itself into stable chains of molecules able to reproduce themselves. After that, it is again only a matter of time (a thousand million years?) until at last, somewhere, a collection of molecules organises itself to the point where *it can sit up and think*. That's us. We happen to be bipeds who have evolved on an oxygen-rich planet with plenty of water. Our long-chain molecules rely on the remarkable properties of the carbon atom. As far as we know, only silicon is capable of forming molecules having that order of complexity and so might form an alternative basis for life. But we cannot possibly say at this stage what a thousand million years of evolution might do for collections of molecules on a planet orbiting, say, an X-ray star; or a planet with enormous gravity; or with a radiation belt that could induce mutations at millions of times the rate possible in our evolution. We just don't know.

The idea of intelligent life-forms co-existing, yet being totally unaware of one another's existence owing to the biological time-barrier, fascinates me and I would like to give you a very amusing illustration of the idea I read about recently. A competition in the USA offered a prize for the wittiest solution to the following problem: devise a suitable conversation between a man, a woman and an alien on the first encounter. The winning entry showed the man and the woman standing together beside what looked like a potted plant. This was the conversation, if my memory serves:

Man: I see no sign of intelligent life.

Woman: Nor do I.

Plant: Me neither.

Now, having considered the possibility that 'they' are there but don't know about us, suppose instead that they *do* know about us. That is the less likely, but much more sinister possibility.

If we accept for the moment that they know about us but decline to communicate, we are led to ask why. There are some who maintain that they have been in touch before, perhaps thousands of years ago, and have left their marks if only we had the wit to appreciate the fact. Should we take these ideas seriously? Your guess is at least as good as mine. I shall finish by passing on two ideas along these lines, both proposed recently by quite respectable members of the scientific community.

The first suggestion is that life on Earth began as a deliberate infection of micro-organisms placed here by another civilisation. We are therefore on a biological culture-plate or in an incubator, being observed (presumably) through some kind of microscope. And who would bother to start a conversation with a microbe?

The second idea is that we are a protected species, living in a section of space set aside as a sanctuary where we can develop naturally; a kind of zoo, in fact. Of course, our keepers would not want the visitors to disturb us!

Down to Earth again

We began on firm ground by considering how our unmanned space probes would undoubtedly tell us within the next few years whether primitive microbes exist on Mars; we finished by wondering whether we ourselves might be just teeming, ephemeral bacteria under some cosmic microscope. The question of intelligent extraterrestrial life is very much an open one; even Carl Sagan himself admits that we could indeed be alone in the universe after all.

Sceptics dismiss the whole subject as a colossal waste of time; cynics say that of course other civilisations have existed—and then destroyed themselves in nuclear wars, as we shall do in our turn, and *that* is why the radio sky is so quiet.

But the debate goes on. It is not in the nature of Man to stop theorising just because there happens to be insufficient data to reach a firm conclusion; and for myself at least, I would not have it otherwise.

Jupiter is an enormous cauldron in which Nature experiments with mixtures which might eventually produce life

THE LAST WEAPON

A science fiction satire by Douglas Fulthorpe

'The truth of the matter is, doctor,' the gaunt young man explained slowly, 'I'm just unemployable.' His haggard features, etched with resignation and defeat, were momentarily enlivened by a trace of tired expectancy as he awaited the other's reaction.

Doctor Plumhart nodded vigorously in understanding for perhaps a quarter of a minute, then performed an adroit ninety degree shift in his cranial oscillations to demonstrate his disagreement. 'Mr Shaw,' he replied with assurance, 'no-one in full possession of his faculties, as you obviously are, can be considered unemployable.' *What I mean*, he thought behind the facade of his flashing smile, *is that there are no absolutes in this world. No-one is ever perfect, not even to the extent of being unemployable*. He silenced his patient's attempted interruption with a friendly wave of his hand.

'Oh, I know you're twenty-six, and you've had nearly two hundred jobs, covering everything from polishing gold bricks at the Royal Mint to aardvark keeper at Whipsnade Zoo—'

'None of which I could hold down,' Shaw cut in. He had spent twenty minutes reciting details of his life, a drab and pitiful story of loneliness and failure.

Dr Plumhart seemed oddly unmoved by Shaw's chronicle of woe. On the contrary, he had lolled comfortably in his swivel chair, listening and beaming fatuously in the face of his patient's harrowing history. From time to time he bobbed his piebald, frizzy poll in appreciation of points which apparently bore special significance for him.

Shaw wondered fleetingly whether he might have been mistakenly introduced to another psychiatric patient. No; the astonishing oddness of the man had been hinted at by the Rehabilitation Committee, who nevertheless appeared to regard him with considerable esteem. This jolly body, on considering Dick Shaw's case-history, had mentally wrung their collective hands and then cast around for a suitable repository to receive this hot potato, before it burned their metaphoric fingers.

Equally desperate were the staff of the local branch of the Ministry of Vocation (labour was an unmentionable word following the debacle of the latest government bearing that title). Like the Rehabilitation Committee, they had been very glad to unload him. Just as, he thought apathetically, Dr Plumhart in turn would undoubtedly shunt him on to someone-else.

I wish he'd let me in on the big joke, he thought with a spasm of annoyance. He shifted uncomfortably on his chair, eyeing the portly and rather absurd little psychiatrist with his cheerful smile and gleaming spectacles.

'What would you like to do? I mean *really* like to do?' Plumhart suddenly asked. There was a long pause.

'I would like to feel normal,' Shaw replied tonelessly.

'Yes, yes, but if you felt normal, what would you then like to do?'

This time there was no hesitation. 'To go on an interstellar trip.'

Just for a moment the doctor's smile faded. 'An unusual ambition,' he commented thoughtfully. They were silent for a few seconds; the beaming little doctor and Shaw, tense and restless. They were thinking of the score of ships and the hundreds of brave men who had left the solar system during the past fifty years.

Every expedition had failed. Beamed messages, faint and intermittent, had filtered back across the light years. Madness awaited man between the stars. The soul-crushing isolation of shipboard communities and the inescapable boredom and frustration of multi-year voyages, played leading roles in the tragedy of mankind's dream of galactic colonisation.

All the expeditions had suffered extinction. Almost to a man, the crew were violently psychotic long before the voyage was half-completed.

'. . . an unusual, and creditable, ambition,' Plumhart went on. 'Tell me, what do *you* blame for your—er, condition, if you don't mind my use of the word?'

'I don't mind, doctor.' Shaw was growing a little impatient and angry at Plumhart's apparent mirth. 'I don't mind anything if it's going to help me. As for what has made me like this—well, as long as I can remember I've been depressed and easily discouraged. The coming war and the likelihood of extermination hardly help matters. Still, it's the same for everyone, I suppose . . .'

'Quite. These are troubled times for all of—.'

'Doctor, what do *you* think is wrong with me?'

The cheery little doctor was not in the least discomfited by Shaw's direct question. 'I *know* what is responsible for your—,' he paused momentarily, '—affliction. The cause and remedy were apparent as you walked through the doorway.'

Shaw's thin features registered disbelief. He gaped in incredulous resentment at Plumhart. The plump little doctor was either mad—or he was a genius. Shaw had previously consulted numerous medical practitioners in attempting to rid himself of his anxiety neurosis and depression. None of them had been able to help him, yet this smirking buffoon claimed to have solved the problem on sight. If he asked one more stupid question—.

'What career did your mother have in mind for you when you were a child?'

Once again there was a long pause while doctor and patient surveyed each other over the tidy desk, beaming good humour on the one hand and red-faced perplexity on the other. Shaw could not hold Plumhart's quizzical stare.

'A ballet dancer,' he muttered in painful embarrassment.

'I thought so.' Plumhart nodded smugly. 'Ballet dancer, male model, tight-rope artist, I knew it was something of that nature.'

'Tight-rope artist!' Shaw exploded wrathfully. The little man was oblivious to his annoyance, however, frizzy poll bent industriously over his desk as he scribbled on a pad. He straightened with his smile predictably broader than ever, and tore the top sheet off the pad.

'Take this prescription to a good stockist.'

Shaw examined the note with wide eyes. By now he was almost beyond speech. Running shaking fingers through his sandy hair, he fought to regain coherent utterance.

'This is a prescription for a pair of shoes!' he gasped.

'That's right. A pair two sizes bigger than those you're wearing.' Plumhart's eyes were bright with triumph. 'I knew the moment you danced into the room, like a man treading on hot coals. I said to myself, "here's a man with tight shoes. A cramped sole means a pinched soul".

'Your mother wanted you to have dainty, pretty feet, so she kept you in tight shoes. You've squeezed your feet into undersize shoes ever since, because of a misconception formed in your childhood that the right shoes are tight shoes.'

'The room had been thoroughly searched before the meeting. Only the previous week an American spy had been discovered lashed to the underside of the table in this very room. The juicy sounds of his chomping on a wad of mentholated gum proved his undoing.'

'I'd like to believe you, Doctor, I really would.' Shaw was eyeing the prescription in his hand partly in doubt, partly in wonder. 'But how can tight shoes make a person neurotic?'

'Think, Dick think! Can any person suffering continuous pain think or act constructively? Your whole life has been one of endless, all-pervading pain, permeating every fibre of your existence; mind-numbing, oppressive torture, eating into you, tearing and piercing your very psyche.'

Shaw was still dubious. 'I don't feel any better when I take my shoes off.' As Plumhart opened his mouth to speak, he hurried on, 'I suppose I'm so completely immersed in this condition that temporary removal of the irritant has no effect. Is that it?'

'Exactly. That's the situation in a nutshell.'

'A nutshell, eh?' Shaw halted, half risen from his chair. 'Look, Doctor Plumhart, would you explain one thing which is puzzling me? Why all the laughs? What's so funny in my condition?'

'Nothing.' The little man lay back in his black swivel chair, his feet on the desk. 'Nothing whatsoever. I never joke about a patient or his problems.

'What I do is "think happy". Contrary to belief held in some quarters, a man works most consistently and efficiently when he is in a happy, contented state. Within limits, contentment is a mental attitude, which, again within limits, may be acquired as a habit.

'Of course, it cannot cure disorders of a neurotic, much less psychotic, nature. What it does is to elevate the temperamental level a couple of notches or so, inducing a proportional enhancement in intellectual and emotional qualities.'

He grimaced cheerfully. 'What a mouthful! You see!' he ended triumphantly, 'the mere idea of it has you smiling, for the first time since you entered this room.'

He stood up and shook hands with Shaw. 'Well, goodbye Dick. You won't need to see me again. Just remember two things, though. Think happy and think big, at least as far as your feet are concerned . . .'.

The Chairman of the Appointments Board, at 60, was at the pinnacle of his career, just as, by coincidence, transatlantic relations were at an almost subterranean level of lowness. In conjunction, these two factors ensured him an abundance of working activity. *Continued on page 28*

Cheryl Drowell

SCIENCE FICTION
NEW ENGLISH LIBRARY MONTHLY

The Dispossessed

By Ursula Le Guin
Reviewed by Malcolm Edwards
(Gollancz, 1974, 319pp. £2.80)

Ursula Le Guin is established as a formidable figure in children's literature with her fantasy novels, and as a leading name in the sf genre, but now the obvious hurdle remaining to her is to transcend the stigma of the sf label and establish herself as an important novelist. This is the most difficult hurdle of all; so far only Aldiss, Ballard and Vonnegut have unquestionably cleared it. But with her new novel ***The Dispossessed****—plainly sf, although Gollancz have not published it as such—there seems little doubt that Ursula Le Guin is about to join that illustrious trio.*

The Dispossessed *is a big book, but it is not (as are most long sf novels) bloated. Ms Le Guin uses its length to marshal the full range of her arguments in a manner worlds removed from the usual sf technique of fast and loose narrative and discussion. The novel is Ursula Le Guin's attempt at a Utopia, at devising as nearly ideal a society as possible. Unlike Thomas More's invented society—or those of many later Utopianists—it is a world seen from the inside rather than the outside. It is easy to describe a perfect society; it is much more difficult to show it at work, inhabited by real people, because imperfect human nature then tends to come into conflict with the supposedly perfect institutions. Knowing this, Ms Le Guin makes it very clear that this society, too, has its flaws. The Odonian society of Anarres in* ***The Dispossessed*** *is a Utopia with feet of clay.*

Anarres and Urras, the twin worlds which are the setting of this novel, circle the star Tau Ceti—but they can conveniently be thought of as a parallel to this solar system in which the Moon—Anarres—is somewhat larger and is an inhabitable, if arid world. Ursula Le Guin's useful background (which this novel shares with ***The Left Hand of Darkness*** *and much of her other sf) ascribes the origin of* homo sapiens *to the ancient world of Hain: it was the Hainish who were responsible for the seeding of humanity on Earth, as well as on Urras and Anarres. Thus the two planets have human inhabitants but have no direct links with Earth, a device which enables the author to create her societies without having to borrow anything from our world save mankind himself. There are many similarities—they are essential to the story—but in developing Urrasti and Anarresti society Ms Le Guin frees herself from the weight of the legacy of our history and institutions, and can thus build precisely the worlds she needs to build.*

Society on Anarres is an offshoot, a couple of centuries old, of that of Urras. It is founded on the precepts of the revolutionary philosophy propounded by the thinker Odo, whose concept of an anarchic state based on individual social responsibility had nearly caused the downfall of government on Urras. In order to save themselves, the Urrasti establishment bought off Odo's followers by giving them Anarres. Since that time the two worlds have been almost totally cut off from each other. On Anarres, where there is no such thing as private property, the only boundary wall on the planet is the one which surrounds the spaceport where a few Urrasti ships land each year. From the Anarresti point of view, the wall hems in the universe, leaving Anarres free; from the universe's point of view it encloses Anarres in a self-imposed quarantine.

On Anarres there are no laws. There is no compulsion to do anything. If a man does not wish to work he need not: he still has free access to food, clothing, shelter. People use these things as they need them; they do not, cannot, own them. The greatest insult on Anarres is to be termed a 'propertarian'. A central computer-backed agency allocates jobs and postings: Anarres is still a poor planet, and local emergencies or major projects may require a large work-force to be raised for a time. But anyone is at liberty to refuse such a posting. If you do not do your share you may become unpopular with your neighbours, but this may be avoided by moving around a lot—and there is a whole class of people, the nuchnibi, *who do just this.*

The intention was to establish a non-centralised society, run federatively rather than hierarchically. 'There was to be no controlling centre, no capital, no establishment for the self-perpetuating machinery of bureaucracy and the dominance drive of individuals seeking to become captains, bosses, Chiefs of State.' The impulse towards forming dominance-based relationships is discouraged in children; self-centredness, 'egoising', is condemned.

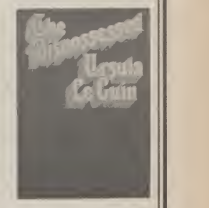
The somewhat puritan philosophy fits the barren world. 'Excess is excrement', wrote Odo. 'Excrement retained in the body is a poison.' This is very appropriate to a world like Anarres, where there is normally no excess; where, simply in order to survive, everything, every task, must be shared.

Shevek, the novel's protagonist, is a brilliant young Anarresti physicist. We follow his growth and development at school, at the Institute of Physics, at various locations around Anarres where he finds himself posted. We also see, through his maturing eyes, the central flaw which is developing in the Odonian system becoming apparent. In this rulerless society, initiative is slowly being stifled. There are no laws, but the social imperative is towards working with others—anything different, anything non-conformist or revolutionary, is frowned upon; it is disfunctional, and functionalism has been made paramount.

Shevek first begins to realise this when he goes to the Institute of Physics to study under the older physicist, Sabul. The most advanced work in physics is being done on Urras, and only Sabul has a channel of information on Urrasti developments. 'It occurred to [*Shevek*] *once that Sabul wanted to keep the new Urrasti physics* private*—to own it, as a property, a source of power over his colleagues on Anarres.' The thought repels him and he tries to reject it, but the power Sabul has over him—in recommending against obscure lines of research, in controlling his contacts with Urras, in trying to make him pursue* acceptable *lines of science—is inescapable.*

Shevek's discontent crystallises through a series of arguments, chiefly with an old friend, Bedap, who is already convinced that the principles of Odonianism are being betrayed, and who sees Sabul's behaviour as just one more example. 'Sabul uses you where he can, and where he can't, he prevents you from publishing, from teaching, even from working. Right? In other words, he has power over you. Where does he get it from? . . . Public opinion! That's the power structure he's part of, and knows how to use. The unadmitted, inadmissible government that rules the Odonian society by stifling the individual mind. . . . On Urras, Odo said that human solidarity is our one hope. But we've betrayed that hope. We've let co-operation become obedience. On Urras they have government by the minority. Here we have government by the majority. But it is government! . . . Nobody's born an Odonian any more than he's born civilised! But we've forgotten that. We don't educate for freedom. Education, the most important activity of the social organism, has got rigid, moralistic, authoritarian. Kids learn to parrot Odo's words as if they were laws*—the ultimate blasphemy!'*

Eventually, Shevek's determination to pursue his own path leads him to accept an invitation to travel to Urras to receive their equivalent of the Nobel Prize. There, he intends to bring to fruition his life's work: the development of a General Temporal Theory, whose theoretical framework will make it possible to devise an instrument for the instantaneous transmission of messages across interstellar space, which will make possible a true federation of worlds.



At first he works contentedly enough in the cloistered atmosphere of a university, though he is aware that his view of Urrasti society is very limited, and its social inequalities and monetary economy baffle and appal him. ('He tried to read an elementary economics text; it bored him beyond endurance, it was like listening to somebody interminably recounting a long and stupid dream.') But after a while he can no longer ignore the fact that he is a political weapon to the various Urrasti nations, who want to get hold of his theory first, and he finds himself drawn into a revolutionary political movement and sees for himself that side of Urrasti society previously hidden from him.

It is almost impossible to talk about this novel except in terms of the discussion on political and power systems which runs through its pages. This is what matters most in the book: Ms Le Guin's crushing critique of our capitalist, 'propertarian', society (and, equally, of the State-dominated 'communist' nations). I say 'our' society, for it is impossible not to see the chief nations of Urras, A-Io and Thu, as slightly distorted versions of the USA and the USSR. And beside what Shevek finds on Urras, the admittedly imperfect society of Anarres, requiring as it does constant vigilance—and a continuing revolutionary spirit—to hold to its ideals, appears more and more attractive.

It may be argued that in presenting this debate Ursula Le Guin has weighted the dice a little. As mentioned earlier, Anarresti society seems to work well largely because Anarres is such a harsh world: co-operation is necessary for survival. It is difficult to see it working so well on lush Urras soil, where the unco-operative could more easily turn their backs on society and build their own comfortable niches. Already on Anarres, the petty and the jealous have found ways of imposing themselves on others; on Urras, one can visualise the Odonian society quickly fostering a series of small, independent communities. Also Urras, from which comparisons are made, seems to be painted just a little too black, the contrast between the decadent wealthy and the miserable masses a little too wide for the lesson to carry maximum impact. When Shevek eventually escapes the cosy world into which his hosts have thrust him, the world he finds himself in—the 'other' Urras—is oddly reminiscent in its atmosphere of 1940s films like ***The Third Man:***

'A fine, foggy rain was falling, and it was quite dark; there were no street lights. The lamp posts were there, but the lights were not turned on, or were broken. Yellow gleams slitted from around shuttered windows here and there . . . The pavement, greasy with rain, was littered with scraps of paper and refuse. The shopfronts, as well as he could make them out, were low, and were all covered up with heavy metal or wooden shutters, except for one which had been gutted by fire . . . People went by, silent hasty shadows.'

But Ms Le Guin regains her balance by providing the salutary extra perspective of an ambassador from Earth, to whose eyes it is Urras which is the Utopia:

'I know it's full of evils, full of human injustice, greed, folly, waste. But it's also full of good, of beauty, vitality, achievement. It is what a world should be! It is alive, tremendously alive—alive, despite all its evils, with hope . . . My world, my Earth, is a ruin. A planet spoiled by the human species . . . The air is grey, the sky is grey, it is always hot. It is habitable, it is still habitable—but not as this world is. This is a living world, a harmony. Mine is a discord. You Odonians chose a desert; we Terrans made a desert . . . We can only look at this splendid world, this vital society, this Urras, this Paradise, from the outside. We are capable only of admiring it, and maybe envying it a little.'

The Dispossessed *is an endlessly absorbing novel, which deserves to be read and reread with great care. I may have been guilty of making it sound a little dry and stuffy; if so, I have done it a disservice, for it is nothing of the kind. Ursula Le Guin is too good a novelist for that.* ***The Dispossessed*** *has a good, strong, human story, filled with believable and well-rounded characters. Ms Le Guin uses the simple structure of alternating chapters from Shevek's life on Anarres and his period on Urras to make many of her points with casual subtlety. On the occasions when debate does take over from narrative, the debate is never dull. It is actually endlessly quotable: my copy bristles with markers which I inserted at particularly telling points, and I have been unable to resist using several of the quotes. It also presents one of the most carefully-developed and apparently self-consistent alternative societies we have seen in science fiction.*

It is, furthermore, true science *fiction. Shevek is not just a physicist by name, he practises some very authentic-sounding physics. It is—as I hope some of the quotes will have indicated—extremely well-written, a true sf novel of ideas which is virtually certain to become a classic of the genre. Don't miss it.*

NEWS

By Julie Davis

MINISTRY OF SCIENCE FICTION ?
In recent months it has appeared that sience fiction is going up in the world, especially as MENSA, the high IQ society, is now taking such an active interest in it. In June this year Isaac Asimov was created joint vice-president of the society and whilst in England gave a lecture with Arthur C Clarke in which they both discussed their sf work. But, MENSA's latest move is a little more controversial, Mr Richard Kirby, the society's research officer and ideas chairman, has suggested that we establish a government ministry of science fiction !

Mr Kirby has made a careful study of Olaf Stapledon's novel *Last and First Men* in which we are introduced to the concept of the 'group mind', such a collective intelligence would, Mr Kirby believes, benefit us all. Taking ideas from works of speculative fiction and putting them into practice is then the basis of Mr Kirby's suggestions. He has placed science fiction in the context of contemporary philosophy of science which is an attempt to define the methods which lead to scientific progress. Here he quotes Sir Karl Popper who says there is a formula which leads to the discovery of knowledge : 'Conjecture boldly and subject your theories to severe testing'.

In Mr Kirby's view sf writers provide our greatest source of conjecture, because it is the nature of their subject to go beyond the information they already have. In fact sf has been defined as : 'An attempt to study the effect on human experience and behaviour of changes and supposed changes in science and technology'. Science fiction explores the possible.

Unfortunately throughout sf the same themes appear again and again, there is apparently a great poverty of imagination, although a few books do seem to be on the right lines. For example *Noise Level* by Raymond F Jones which is the story of a film made about the discovery of anti-gravity, when it is shown to a group of scientists they hurry off to discover it for themselves believing that it is possible but not knowing how, when they do discover it they are told that the film was a hoax. Katherine Maclean's short story *The Snowball Effect* also provides us with an example of bold conjecture with its tale of applied sociology.

In short, Mr Kirby is suggesting an academic discipline of applied science fiction. He proposes that a comprehensive content analysis of all science fiction be prepared to provide a computer bank of hypotheses which can be fed to scientists ; he is encouraging scientific researchers to send their problems to sf writers who will solve them in fiction ; and he also suggests that liaison committees be set up between scientists and writers to combine the actual with the possible.

He rejects our passive role as objects in the universe, we are subjects and as such we should take the future in our own hands and define it into existence. Mr Kirby believes that the responsibility for this lies with the sf writers, he wants universities and research establishments to employ resident sf writers to stimulate new and worthwhile research. He even goes as far as to suggest that sf will no longer stand for science fiction but henceforth it will mean *science fertiliser* !

Needless to say Mr Kirby's ideas were not received too favourably by the scientists present at the meeting.

IF YOU'VE GOT A PET SF SHORT STORY (not the one you've just written, unless its appeared in print) that you think says something constructive about the world then you might like to contact Dr John Borden. He is currently compiling an anthology of sf and speculative fiction short stories to be used as a college textbook for training vocational counsellors and therapists. The sort of story he is looking for should depict : an alternative life style ; the impact of change ; the meaning of work or leisure ; or any other concept or setting that will help to make the students more 'future-orientated', Dr Borden is an associate professor at The Florida State University, Tallahassee, Florida 32306, USA, and that's where you should send your nominations.

SF GOES INTERNATIONAL—*we have just received a copy of ANTARES which is a Turkish fanzine ! Written completely in Turkish, except for an English summary at the beginning, ANTARES seems to compare favourably as regards appearance with the other fanzines we've received. From the summary I gather that sf in Turkey is influenced mainly by STAR TREK, the books of Erich Von Daeniken and the film 2001. Thanks to the enterprising soul who sent us ANTARES all the way from Turkey (how did you get a copy of SFM ?) and good luck with future issues ! Meanwhile, does anyone know of any Turkish evening classes in progress at the moment ?*

CORRIGENDUM : In SFM Vol 1 No 6 we gave the name of the treasurer of the Tolkien Society as Archie Mercer ; there has now been a change of personnel in the society and Mrs Janet Gibb has taken over. So all membership subscriptions should be paid to her at 49 Beresford Road, Islington, London N5.

BOOKS

The Sky is Falling by Lester Del Rey. *Published by New English Library, 30p. The story of a parallel universe which exists within a dome, when the dome begins to crack-up it appears that the sky is falling. To save their world the inhabitants have to borrow someone from our universe, a skilled engineer, who can patch up the cracks.*

The Moon Is Hell by John W Campbell. Published by New English Library, 30p. This is the first in a new series of science fiction classics. John W Campbell is renowned as editor of several science fiction magazines in the thirties, forties and fifties. He is also a sf writer and *The Moon Is Hell* is a study of the effects of the moon on the first men who landed there.

The Roots of Coincidence by Arthur Koestler. **Published by Picador, 50p. The relationships between respectable science and the science of the supernatural are constantly changing. Close ties between research and the occult formed in the days of the alchemist have fallen away and been partially rebuilt, especially as the study of parapsychology becomes of wider scientific interest. Arthur Koestler has created this book from a discussion of several syntheses of physics and metaphysics, the ideas of men as disparate as Pico Della Mirandola and Carl Jung. Ever looking outward, Koestler pleads for open-minded analysis, combined with an indictment of rigid materialism and superstitious credulity.**

The Cosmic Colouring Book *published by Mushroom Cloud Publishing Company Limited, Redhill, Surrey, 75p. This book contains thirty-six outline drawings of witches and wizards; fairies and flowers, earth, air, fire and water; inner space and outer space. You can use water-based paints, including Polymer and Acrylic, glitter, crayons, pencil, pentel and inks, the choice is yours. And when you've finished you've got a personal and permanent picture book to show to all your friends.*

The Other Side of the Sky by Arthur C Clarke. Published by Corgi Books, 35p. Imagine you are the first man to leave Earth in order to live in space ; or imagine your life in a space station, where you are dependent on rockets from Earth to bring you everything you need ; or imagine what happens when without spacesuit you are suddenly projected into the total vacuum which surrounds your cabin on the perimeter of the space station. These are only three of the twenty-four themes that Arthur C Clarke pursues in this book. These stories reflect Clarke's reputation as a brilliant scientist—all the technical details are handled in a splendidly assured and dextrous fashion—and at the same time display the unflagging fertility of his imagination, his mastery of the short-story form (there is invariably a breathtaking twist in the final sentence) and his power to convey a sense of awe and wonder at the immensities of outer space and the fantastic possibilities for mankind that lie just around the corner.

The Mask of Cthulhu by August Derleth. **Published by Neville Spearmen, £1.95. Great Cthulhu—Hastur the Unspeakable—sunken R'lyeh—all come to life again in these five novellas and one short story. HP Lovecraft himself suggested the theme of *The Return of Hastur* shortly before his death. The remaining tales in this collection of horror stories followed naturally upon it—the account of the terrible psychic residue that remained lurking in *The House in the Valley* ; the gruesome compulsion which drove the narrator to his doom in *The Whippoorwills in the Hills* ; the inescapable agreement which lay behind *The Sandwin Compact* ; and the search which followed the discovery of *The Seal of R'lyeh* in the house near Innsmouth.**

Beyond Earth : Man's Contact With UFOs by Ralph Blum with Judy Blum. Published by Bantam Books, 50p. The latest Gallup Poll reveals that 15,000,000 Americans believe they have seen flying saucers ! Not aircraft, not meteors, not migrating birds, not high altitude balloons, not Venus, not swamp gas, not temperature inversions, not ball lightning, not multiple-witness hallucinations, not plastic garbage bags lit by candles—but authentic sightings of unknown unidentified flying objects by pilots, radar experts, police officers, astronauts and other trained observers. In this book Ralph and Judy Blum examine the evidence for the existence of UFOs.

Conscience Interplanetary by Joseph Green. *Published by Pan Books, 40p. In the overcrowded twenty-first century, the conscience of one man must decide whether life on a newly discovered world is likely to be damaged by settlers from Earth. The pressures of big business and grasping politics will stop at nothing to force his hand their way.*

Rendezvous With Rama by Arthur C Clarke. Published by Pan Books, 40p. Arthur C Clarke has progressed from *2001* to 2131 when a mysterious asteroid is located in space and a probe sent up to meet it. But they don't find an asteroid, it is in fact a new world, artificial and unreal, the first product of an alien civilisation to be encountered by man. Rama is a question mark in the discovery of other worlds—a paradox that stuns the confidence of a civilised universe. As we reach our rendezvous with Rama we realise what its purpose is, who is inside it and why.

The Trail of Cthulhu by August Derleth. **Published by Neville Spearman, £1.95. No one but August Derleth could have captured so skilfully the mood and design of HP Lovecraft's Cthulhu Mythos and yet have done so in a manner all his own. The story tells of the devious pursuit of Cthulhu, the search for his lair in sunken R'lyeh, of the danger from Cthulhu's minions, ever wary of detection and disclosure. It begins in a house on Curwen Street in legend-haunted Arkham, Massachusetts and ends on a shunned and mysterious island in the South Pacific. In between the scene ranges from the Inca ruins near Machu Pichu to London, from the Nameless City of Irem—in a memorable scene evoking the shade of the mad Arab Abdul Alhazred—to Singapore. The result is a colourful and dramatic sequence of events which fits into place more pieces in the mosaic of the Cthulhu Mythos than any other fiction written since Lovecraft's death.**

Any of you who missed the lecture given by Isaac Asimov and introduced by Arthur C Clarke in London earlier this year may be interested to know that a cassette tape recording of the proceedings is now available. The lecture was arranged by MENSA, the high IQ society, and tapes can be obtained from Steve Odell, 90A Crown Lane, Southgate, London N14 5AA, at £2.85 each. The tape will be reviewed in a future issue of SFM.

READERS' questions on any aspect of science fiction are dealt with in this feature so long as they are of general interest. Send your questions to *THE QUERY BOX, Science Fiction Monthly*, New English Library Ltd, Barnard's Inn, Holborn, London EC1N 2JR. They will be dealt with as quickly as possible.

THE QUERY BOX

HIDDEN TREASURES
Can you tell me more about *Famous Science Fiction*, mentioned in Michael Ashley's series on the sf magazines? Is it still possible to get copies?
WS Bryant, Darlington

This was a pocket-sized magazine, published quarterly at 50c by Health Knowledge Inc., New York, starting with the Winter 1968–7 issue and ending with the Winter 1968–9 number. It was edited by Robert AW Lowndes, a former writer who turned to editing in 1940 and knew the sf field as well as his editorial consultants, Sam Moskowitz and Robert A Madle. The policy was to feature memorable stories of pre–1938 vintage which had not been revived by the anthologists because they were 'disreputable' or 'obsolete' though 'honoured in their own time.' And the accent was on 'Tales of Wonder'—sub-title of the magazine.

Among the treasures it unearthed from *Amazing, Wonder*, the early *Astounding*, the ancient *Argosy* and *Weird Tales* were Ray Cummings' *Girl in the Golden Atom*, Charles Willard Diffin's *Dark Moon*, the *Stranger Club* tales of Laurence Manning, and Clark Ashton Smith's truly fabulous *City of Singing Flame*, with its sequel—both since made available here in the collection *Out of Space and Time* (Spearman, 1972).

Hoariest gem of all was JA Mitchell's *The Last American*, which dates back to 1889. Other, more recent writers whose tales were resurrected included Jack Williamson (still furiously active), 'World-Wrecker' Edmond Hamilton, the late Dr David H Keller, and our own Festus Pragnell. All of whom, with the erudite Smith, were featured thirty years ago by Britain's *Tales of Wonder*, which couldn't get along without reprints.

Lowndes' precedent, though, was *Famous Fantastic Mysteries*, which had a much richer lode to draw upon and lasted from 1939 to 1950. And with the difficulty of securing more desirable gems from the past, his magazine failed to make the grade and folded after only eight issues. Scattered copies appeared over here eventually and are still obtainable from specialist dealers.

PAGING MR NOLAN!
A few years back I read two excellent books by a William F Nolan. I have tried to obtain more of his works, without any luck. Could you or your readers help?
Trevor Bell, Ilford, Essex

William F Nolan is perhaps best-known here as the co-author, with George Clayton Johnson, of *Logan's Run* (Gollancz, 1969), a novel envisaging a future in which nobody can live beyond the age of 21. If he has written any other novels they have not yet been published in the UK, to my knowledge. But a paperback collection of his short stories titled *Impact-20* was published here in 1966 by Corgi, who also issued *Logan's Run* in paperback in 1970.

His earliest sf stories appeared in *Worlds of If, Fantasy and SF*, and *Gamma*, of which he was managing editor when it first appeared in 1963. He later became a prolific writer, critic, poet, biographer and script writer. He also authors detective stories and has published a book on Dashiell Hammett.

In an introduction to *Impact-20* Ray Bradbury, who encouraged Nolan in the days when he was just making out himself, tells how he became successful after starting out as a fan writer. He was actually inspired by Forrest J Ackerman, to whom he dedicated *A Wilderness of Stars* (Gollancz, 1970), one of at least five anthologies he has edited: another is *The Pseudo-People* (Mayflower, 1967).

LOST WORLD
In the mid-fifties I remember reading a novel called, I think, *World D*, by an author named Trevarthern or Trevellyn. It was probably published in the forties or early fifties. Could you help me trace it?
Bill Wyatt, Kingston-upon-Thames

Yes; I recall reading it myself, very vividly, though it was actually published in 1935 (Sheed & Ward, London). The author was JK Heydon, who presented the story as a manuscript sent to him by Hal P Trevarthen (you almost got it right), a distant relative who had disappeared with his bride from the island of Guernsey.

The account told of the founding of Heloxenon, a subterranean world constructed beneath the Indian Ocean by a psycho-physicist who plans to populate it with selected couples from the doomed surface world. He is also in communication with alien creatures on distant planets and is trying to enlist their aid in saving Earth from its fate—in spite of the 'Law of Independent Development'.

The menace remained obscure, at least to me: but the book is full of original conception and altogether fascinating. I hope you unearth a copy.

KLAATU CLASSIC
Can you locate for me the story by Harry Bates, *Return of the Master*, which appeared around the early fifties and was later used for the movie, *The Day the Earth Stood Still*?
NJ Cockburn, New Malden, Surrey

The story, actually titled *Farewell to the Master*, was first published in *Astounding Science-Fiction*, October 1940. It was included in the celebrated anthology, *Adventures in Time and Space*, edited by Raymond J Healy and J Francis McComas (Random House, New York, 1946; Grayson, London, 1952). Harry Bates was editor of the original *Astounding Stories* from 1930 to 1933, and later became a contributor.

IN THE DARK
I need some information on the history of science fiction films. Can you recommend an inexpensive book on the subject?
GT Brooks, Sale, Cheshire

For its size, the paperback *Science Fiction in the Cinema* (Tantivy Press) packs a lot of information and still pictures into 240 pages, covering everything from Méliès' 1902 *Trip to the Moon* to Kubrick's *2001*. The author, John Baxter, is an Australian who writes sf when he isn't watching movies.

WHODUNNIT
Who did the covers for *Dune* and *Dune Messiah*?
DAW Peddie, Westcliff-on-Sea

The covers of the NEL paperback editions of Frank Herbert's tales of the planet Dune were painted by Bruce Pennington. An article about him appeared in the first issue of *SFM*.

With reference to Derek Stokes' letter in SFM Vol 1 No 8, I feel compelled to write and defend my sex. I am quite willing to accept that he is writing from his personal experiences, but really . . . !

My husband and myself are both avid sf readers. We both buy books and, in common with most other married couples we know of, do not need to justify or explain why the weekly budget is slightly out and why extra books have appeared on the bookshelf AGAIN. As for hiding books or sending them to a friend's address there are just as many men who make their wives feel guilty about spending money on things they enjoy – e.g. the new hats that suddenly appear. If more men treated women as intelligent human beings and didn't try to intimidate or belittle them when they are in sf book shops, then they might feel free to browse along bookshelves.

Anyway it was me, not my husband, who placed a regular order for SFM.
C O'Brien (Brentwood, Essex)

I was looking forward to the article, *Science Fiction in Rock Music*, but in the event found it rather disappointing for a number of reasons.

Gene Cochran (and SFM in general) seems to have a thing about Hawkwind and, to a lesser extent, Pink Floyd, and the impression I got was that the idea of an article on sf in rock music was concocted as an excuse for a discourse on Mr Cochran's favourite band. The article that emerged consisted of a reasonable piece on Pink Floyd and a lengthy PR job on Hawkwind, with little more than a cursory acknowledgement of other manifestations of sf in rock.

It seems to me that Gene Cochran has missed a golden opportunity to explore an area that has barely been touched before. As the article points out, the music of Pink Floyd and Hawkwind is not totally sf-orientated, but there are plenty of other people to whom this also applies, whose music nevertheless contains sf elements of various sorts. Examples? Early Roxy Music with their futuristic stage costumes and synthesised music, particularly as evidenced by Eno (who even at one time claimed to be of extraterrestrial origin); Rick Wakeman with his *Journey to the Centre of the Earth* project; Elton John and Bernie Taupin's *Rocket Man* and *I've Seen the Saucers*; one-offs like Nilsson's *Spaceman*, the Kinks' *Supersonic Rocket Ship*, King Crimson's *21st Century Schizoid Man*, and even Ricky Wilde's *I Am An Astronaut*. And then there's the person who is probably more steeped in sf than any of those I've just mentioned – David Bowie. What about his *Diamond Dogs* album; *Saviour Machine*; the very early *We Are Hungry Men* (about the dangers of overpopulation); the whole concept of *Ziggy Stardust and the Spiders from Mars*, but especially *Five Years*, *Drive-in Saturday* and the classic sf song (light years ahead of *Silver Machine*), *Space Oddity*?

Now that Gene Cochran has got Hawkwind out of his system, perhaps *SFM* will publish an article which really deserves the title *Science Fiction in Rock Music*.
CR Stanley (Southsea, Hampshire)

Winners of Crossword Competition No 2

Science Fiction Monthly Vol 1 No 8 *featured our second sf crossword competition and offered as prizes three copies of Christopher Priest's collection of short stories* Real-Time World. *The winners are the authors of the first three correct entries pulled out of the post bag and are as follow:*

Peter Pinto, D4 Bedfordbury, London WC2;
A McInnes, 50 Deveron Road, Bearsden, Glasgow G61 1LN; and
DM Bath, 5 Fairweather Grove West, Llandaff, Cardiff CF5 2JN.

SOLUTION

Across: 1 Michael Moorcock 8 Tolkien 10 Sty. 12 Hunch. 13 Oak. 14 Ohe. 15 Io. 17 Tues. 18 Brian Aldiss. 20 Optic. 21 Team. 22 Schmitz. 26 Ra. 27 Nail. 28 China. 29 Stand On Zanzibar. 30 Slan. 31 (The) Star King. 33 Bowery. 35 Starship Trooper.
Down: 1 Matheson. 2 Chant. 3 Arthur C Clarke. 4 Lalla. 5 Olio. 6 Rank. 7 Keyes. 9 Earl. 10 Souse. 11 The Saliva Tree. 16 See 29 Across. 17 Titan. 18 Bis. 19 Astra. 23 Meson. 24 See 29 Across. 25 Titania. 28 Cosmos. 32 Gasp. 34 Who.

Continued from page 23

Great Britain and the other countries of the European Union were girding themselves for the coming conflict with the American Alliance. Their armies were mobilised, and in remote research stations project teams were working inexorably towards newer horrors of scientific warfare. Britain was in martial mood, and the erstwhile Consolidation Department, under its new title of the Ministry of Offence, was recruiting personnel at a prodigious rate.

None of this really bothered the Chairman of the Appointments Board to the Ministry. What *was* important was the wealth of opportunity for his celebrated dry wit, which he privately likened to 'essence of cacti', and his punctilious adherence to 'Board Form'.

Glancing up from his papers, for a few seconds he blandly surveyed his audience of five, who gazed back at him in glum resignation to verbose egocentricity.

'We have one more candidate for interview, gentlemen,' he said mildly, and then moistened his lips with water.

This was the cue for the man on his right to speak. The Staff Relations Officer, young, brilliant, and intensely image-conscious, followed the current vogue by affecting a ridiculous mock French accent. Thirty years previously he would probably have spoken in the clipped, incisive American style. Today it was fashionable to imitate one's Gallic allies in thought, word and deed.

The next candidate, he began in soft, liquid syllables, was one Richard Shaw, who was due to arrive in five minutes time at three o'clock This man had recently astounded the Rehabilitation Committee, to whom he was assigned, by the phenomenal increase in his employability coefficient, which the committee naturally attributed to the help they had given him.

In addition, or, as the Staff Relations Officer put it, 'adeeshyoong', Shaw claimed to have invented a military weapon of major significance.

This revelation jarred the idly-listening Board members out of their semi-comatose studies. It wasn't every day they had the opportunity to consider a potential newcomer to the illustrious company of such products of inhuman ingenuity as the automatic flaying machine, leprosy gas, and the brain fluid cavitator.

The Appointments Board would consider Shaw for employment, and would also decide whether or not his invention was worthy of consideration by a Weapons Committee.

The last syrupy note of the Staff Relations Officer's voice died in the large, austere room. Each man attended to his thoughts, the Chairman with his triumphs of Board Form, past and present, the last speaker fiercely contemplative of his next dozen moves on the political chess-board, the others morosely considering various implications of the coming eruption of military science.

The room had been thoroughly searched before the meeting. Only the previous week an American spy had been discovered lashed to the underside of the table in this very room. The juicy sounds of his chomping on a wad of mentholated gum had proved his undoing. (He had taken the precaution of jamming the building's acoustic detectors, but had overlooked the natural hearing faculty of the board members.)

Bong! The first stroke of nearby Little Ben clove the air. Its larger predecessor had gone to the melting pots in the austerity drive of the early nineties. The Chairman pursed his lips and prepared to deliver a characteristic remark of withering dismissal, a dry observation to the effect that possibly Mr Shaw's weapon had proved to be conclusively successful.

At the second stroke a shadow appeared on the translucent armorcrystal window behind the Chairman's left shoulder. Following the sudden gaze of his colleagues, he turned half around in time to see, precisely at the third stroke of three o'clock, the window shatter inwards in a shower of glass, in the midst of which he glimpsed a diving figure.

The Board members gaped at the intruder, sprawled on the maroon carpet among thousands of crystal discs of similar shape and size to a fifty pence piece. The newcomer was a rather slightly built young man with nondescript features, extraordinarily attired in a camouflage suit with matching helmet.

'This weapon is an instrument, not of death, but of life. He carefully squeezed the trigger again and then slowly played the soundless instrument over the circular arc of anxious faces. Its function may be inferred from its name, the harmonic escalator.'

On his back were strapped twin cylinders, also camouflaged, from which flexible pipes snaked over his shoulders to a mysterious device resembling a sub-machine gun with a black, trumpet-like barrel, held firmly in his grasp. The gun, if such it was, was pointed quite definitely, pointedly, one might put it, at the Chairman.

This poor soul's celebrated dry wit had undergone rapid and drastic dehydration to the point of desiccated expiry. The Staff Relations Officer was hastily debating whether to dive under the table or sing a snatch of *Yankee Doodle* (blast his French accent) for, like the others, he believed the camouflage-clad figure was one of the vanguard of an American invasion force.

'Mr Chairman, gentlemen.' The intruder bobbed his high-tensile hat politely, 'Richard Shaw, for interview.' He smiled warmly at the amazed gathering.

A little Yorkshireman, at the other end of the table, was the first to break out of the gawking trance which held the entire body. He pointed a shaking forefinger at the empty windowframe.

'Armorcrystal has an ultimate strength approaching that of stainless iron.' His voice was an incredulous whisper. 'And he shattered it like a slab of butterscotch.'

Shaw flicked a glance at the speaker. 'Consideration of the basic and evident physical properties of the material, indicated a macroscopic crystalline structure of lattice form, whose cleavage plane distribution could be simply inferred by visual inspection of its refractive characteristic.'

'I see, I see,' the Yorkshireman muttered. 'And then you—.'

'—traced a knife-point along any seven distinctive planes on the surface of the window,' Shaw continued pleasantly.

'So the strength of the matrix was exceeded on all the cleavage planes,' another fellow cut in.

'—and the window-pane disintegrated,' all three shouted simultaneously.

'This is unconstitutional!' The Chairman had touched down to earth again and was going to assert himself—to hell with Board Form. He pawed hastily through a rather grubby black book which had appeared from some unapparent source.

'Standing Orders for Conduct of Pre-Induction Boards, Rule 25C, Paragraph 2, states, "a candidate may be considered only if he has conformed with formal presentation procedure as set out in Sub-Booklet 239, *Interview Systems; Introductory*".' He leafed rapidly through a second and equally bedraggled handbook.

'You,' he stabbed an accusing finger at Shaw, 'came in through the window, a mode of entry which is clearly proscribed in—.'

At this point Shaw put him out of his misery by gently squeezing the trigger of the weapon.

The Chairman paused, puzzlement spreading slowly over his red, flustered features. His eyes took on a haunted, distant look, as though he were struggling to recapture the mood of some half-remembered, bewitching melody. He raised hesitant fingers to his temples, then slowly lowered them.

He shook his head twice and then the Board members were further astonished to see the vague remoteness leave his face, to be magically replaced by alert good-humour.

'Why, this is marvellous.' His voice was cheerful and natural-sounding. 'I haven't felt like this since, well, I've *never* felt like this. How did you do it?'

Shaw returned his smile as he stood up. 'Gentlemen,' he addressed the plainly apprehensive group of onlookers, 'this weapon is in no sense dangerous to *anyone*. It is an instrument, not of death, but of life.'

He carefully squeezed the trigger again, and then slowly played the soundless instrument over the circular arc of anxious faces.

'Its function, gentlemen, may be inferred from its name, the harmonic escalator. A directional electromagnetic field penetrates the brain of the subject and induces a redistribution of the phase pattern of the minute, harmonic, electro-chemical impulses which determine the temperamental state of the subject.' He released the trigger, and let the harmonic escalator fall to his side.

'Negative, or harmful impulses,' he continued, 'are caused to act upon and cancel each other, instead of diminishing the effect of the beneficial, positive impulses.

'The nett result is evident from your faces, gentlemen.'

And so it was. Every man in the room felt a noticeable temperamental improvement, along with an associated increase in alertness and mental perception.

'Is the effect porsistent?' the Staff Relations Officer wanted to know. In his elation, he had lapsed into his native Geordie dialect.

' "Porsistent?" Why, man, it's pormanent,' Shaw informed him, cheekily giving like for like. 'Once the modified phase pattern is established, its new-found dominant energy level is strong enough to resist any reversion to the old state.'

'Why, this is the answer to—to everything.' The Chairman voiced the unanimous opinion of the Board. After what had happened there was only one possible course of action. They lifted Shaw and his harmonic escalator shoulder-high and jubilantly bore him off to the office of the Minister.

How different from a previous interview at the Ministry, some years past, when an astute interviewer, noting Dick's lightly dancing foot movements, had offered him a job on a machine-gun range on Salisbury Plain—as a target!

The sounds of the triumphal procession faded down the corridor. The Chairman alone remained in the room, head bent over his papers and whistling as merrily as a songbird in spring. Briskly he set out notes covering the latest and final extra-priority programme for the Ministry of Offence. Harmonic escalators; twenty-five million hand weapons: harmonic escalators; thirty-one thousand aerial launchers: harmonic escalators; fourteen thousand ground vehicular units: . . .

Shaw did not attend the victory parade in Washington; he was far too busy. Indeed it was with some reluctance he joined in the celebrations in London, and then he slipped away quietly after a couple of hours. No-one minded; everyone was revelling in new-found joy and relief. In every city and town throughout the world victory was celebrated; victory for sanity and reason; victory for co-operation and trust.

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At this moment they are just beyond the orbit of Pluto, bound for Proxima Centauri and other ports of call. Dr Plumhart is with them; 'just for the trip,' he explains with a smile. There is very little employment for psycho-therapists on Earth these days, and, come to think of it, there will be even less on ship.

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